



Northern Virginia Community College

8333 Little River Turnpike, Annandale, VA 22003

Municipal Separate Storm Sewer System (MS4) Program Plan Manual

VAR040095

This plan is submitted in accordance with 9VAC 25-890-30 as part of the registration statement for permit coverage to discharge stormwater to surface waters of the Commonwealth of Virginia consistent with the VAR04 General Permit, effective through June 30, 2018.

Revised June 2014

Table of Contents

Article I. Introduction		1
Section 1.01	Background	1
Section 1.02	Purpose of the MS4 Program Plan	1
Section 1.03	Campus Contact Information	3
Article II. Permit-Required Stormwater Pollution Control Measures		4
Section 2.01	Control Measure Programmatic Requirements	4
Section 2.02	Public Education and Outreach on Stormwater Impacts	5
Section 2.03	Public Involvement Participation	5
Section 2.04	Illicit Discharge Detection and Elimination	6
Section 2.05	Construction Site Stormwater Runoff Control	7
Section 2.06	Post-construction Stormwater Management in New Development and Redevelopment	8
Section 2.07	Pollution Prevention/Good Housekeeping	9
Article III. Special Conditions for Approved Total Maximum Daily Loads (TMDL)		9
Section 3.01	TMDL Action Plans (not Chesapeake Bay TMDL)	9
Section 3.02	Chesapeake Bay TMDL Action Plan	9
Article IV. Campus Specific Information		11
Section 4.01	Alexandria (AL) Campus	11
(a)	Site Plan (AL)	11
(b)	Stormwater Drainage (AL)	11
(c)	Campus Facilities (AL)	12
(d)	Potential Pollution Sources (AL)	12
Section 4.02	Annandale (AN) Campus	13
(a)	Site Plan (AN)	13
(b)	Stormwater Drainage (AN)	14
(i)	Northern Drainage Area	14
(ii)	Southern Drainage Area	15
(c)	Campus Facilities (AN)	15
(d)	Potential Pollution Sources (AN)	15
Section 4.03	Loudoun (LO) Campus	16
(a)	Site Plan (LO)	16
(b)	Stormwater Drainage (LO)	17

Table of Contents

(i) Northern Drainage Area	17
(ii) Southern Drainage Area	18
(c) Campus Facilities (LO)	18
(d) Potential Pollution Sources (LO)	18
Section 4.04 Woodbridge (WO) Campus	19
(a) Site Plan (WO)	19
(b) Stormwater Drainage (WO)	20
(i) Eastern Drainage Area	20
(ii) Western Drainage Area	20
(c) Campus Facilities (WO)	20
(d) Potential Pollution Sources (WO)	20
Article V. Minimum Control Measures – NVCC Stormwater Program	22
Section 5.01 MCM: Public Education and Outreach on Stormwater Impacts	26
(a) Current Activities and Program Elements	26
(b) Activities Planned for the Next Permit Year	26
Section 5.02 MCM: Public Involvement/Participation	27
(a) Current Activities and Program Elements	27
(b) Activities Planned for the Next Permit Year	27
Section 5.03 MCM: Illicit Discharge Detection and Elimination	28
(a) Current Illicit Discharge Detection and Elimination Program	28
(a) Activities Planned for the Next Permit Year	28
Section 5.04 MCM: Construction Site Stormwater Runoff Control	29
(a) Current Construction Site Stormwater Runoff Control Program	29
(b) Activities Planned for the Next Permit Year	30
Section 5.05 MCM: Post-Construction Stormwater Management in New Development and Development on Prior Developed Lands	31
(a) Current Post-Construction Stormwater Control Program	31
(b) Activities Planned for the Next Permit Year	32
Section 5.06 MCM: Pollution Prevention/Good Housekeeping	32
(a) Current Pollution Prevention/Good Housekeeping Program	32
(b) Activities Planned for the Next Permit Year	34

Table of Contents

Tables

Table 1-1	Facility Manager Contact Information	3
Table 2-1	VSMP Permit Requirements – Six Minimum Measures	4
Table 3-1	Current Water Impairment/TMDL List for NVCC Campuses	10
Table 4-1	Alexandria Site Map Locations Key	11
Table 4-2	Annandale Site Map Locations Key	13
Table 4-3	Loudoun Site Map Locations Key	16
Table 4-4	Woodbridge (WO) Site Map Locations Key	19
Table 5-1	Schedule of NVCC Program Plan Updates	22
Table 5-2	Summary of BMP Implementation Information	23

Appendices

- A Approved MS4 General Permit (July 1, 2013-June 30, 2018)
- B Post Construction Stormwater Management Facility Program Manual
- C Illicit Discharge Detection and Elimination Program Manual & Field Guide
- D Erosion and Sediment Control Law (4VAC 50-30-40)
- E VCCS Annual Standards and Specifications ESC 2012
- F Pollution Prevention and Good Housekeeping Procedures
- G Nutrient Management Plan DCR Approval Letter

Article I. Introduction

Section 1.01 Background

Northern Virginia Community College (NVCC) is composed of six campuses located within the Northern Virginia area. The stormwater drainage from each campus is collected by individual storm sewer systems that function independently of the campus's respective county or city systems. Four of the six campus' systems are regulated as municipal small storm sewer systems (MS4s) by the Commonwealth of Virginia: Annandale, Alexandria, Loudoun and Woodbridge. Pursuant to the Virginia Stormwater Management Program (VSMP) and Stormwater Management Act, in 2003 the College registered to obtain coverage under the General Permit for Stormwater Discharges of Stormwater from Small Municipal Separate Stormwater Systems. The general MS4 permit authorizes NVCC's storm sewer system to discharge into surface waters within Virginia state boundaries. NVCC's stormwater sewer systems are covered under VSMP Permit No. VAR040095 administered by the Virginia Department of Environmental Quality (DEQ). Existing permit coverage under VAR04 expires on June 30, 2018. This revision of the NVCC Stormwater Management Program Manual is intended to comply with the requirements of the new small MS4 permit that took effect on July 1, 2013. NVCC filed a new registration statement for coverage under the new permit in April of 2013, and has received DEQ acceptance for the new permit coverage from July 1, 2013 until June 20, 2018.

NVCC is considered a non-traditional MS4 permit holder, and therefore, certain aspects of the new small MS4 permit are more challenging to implement. In particular, the requirement for NVCC to assume the role of "authority" to perform plan reviews, inspections and enforcements presents a number of problems. NVCC is not an independent political entity with power to enact laws, ordinances or other legislative action. It is a State agency under the authority of the Virginia Community College System (VCCS), which is the responsible for the entire 23-college Community College System. Plan reviews for erosion and sediment control (E&SC) fall under the jurisdiction of the VCCS, and are conducted by an outside consultant to VCCS. DEQ remains our VSMP authority; therefore, stormwater plan reviews are conducted by DEQ. Plan reviews of other projects related to permit compliance may be conducted by NVCC, or the Bureau of Capital Outlay Management (BCOM), a State Agency, depending on the scope and cost of the project. Inspections are the responsibility of NVCC employees. The adoption of ordinances for enforcement purposes is not within the authority of either NVCC or VCCS, but rests rather with the General Assembly of Virginia.

Section 1.02 Purpose of the MS4 Program Plan

The previous general MS4 permit required the College to develop, implement and enforce a stormwater management program (SWMP) by December 2007. NVCC developed their initial stormwater management program manual (MS4 Program Plan) in December 2006. This MS4 Program Plan was prepared as an update to the December 2006 version to document changes to NVCC's SWMP and steps that the College is planning to implement these changes. It was also development to incorporate the new SWMP requirements included in the new small MS4 permit that took effect in July 2013.

The SWMP must be designed to reduce the discharge of pollutants from its MS4s, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act and the Virginia Stormwater Management Act. As a permittee, the College's SWMP must include the following six minimum control measures:

- Public education and outreach on stormwater impacts
- Public involvement and participation
- Illicit discharge detection and elimination
- Construction site stormwater runoff control
- Post construction stormwater management in new development and redevelopment
- Pollution prevention/good housekeeping for municipal operations.

This manual is intended to function as a central repository of all of the information necessary to demonstrate compliance with the conditions set forth in the General Permit for Stormwater Discharges of Stormwater from Small Municipal Separate Storm of the College's general MS4 permit. This manual outlines the standard practices and procedures at each campus to reduce, to the maximum extent practicable, pollution discharges from the MS4s to the area's surrounding surface waters. It serves as documentation of each campus's implementation of the College's overall stormwater management program and of the six pollution control measures, mandated by the General Permit for Stormwater Discharges of Stormwater from Small Municipal Separate Stormwater Systems. This MS4 Program Plan is organized as follows:

Article I – contains campus contact information and background information

Article II – contains the required components of the Six Minimum Control Measures, as well as the prescribed timeframes to develop and implement the requirements in accordance with the new small MS4 permit. As permit-required plans are developed, this section of the MS4 Program Plan will be updated to reference new pertinent documents.

Article III – contains the requirements of Sections I.B and I.C of the small MS4, which includes the special conditions for discharges to waters with approved Total Maximum Daily Loads (TMDL), including the Chesapeake Bay TMDL requirements. As permit-required TMDL Action Plans are developed, this section will be updated to reference all TMDL Action Plans.

Article IV – contains background information for each campus, including site plans, a description of the stormwater drainage systems, potential pollution sources and other campus-specific information. Because most of the Minimum Control Measure (MCM) implementation programs are the same from campus to campus, NVCC's current and planned MCM information is summarized for all campuses in Article V of this MS4 Program Plan.

Article V – contains the current programs in place across all NVCC campuses to meet the requirements of the Minimum Control Measures. This section also contains upcoming plans for the next permit year as well as planned activities to meet new permit requirements within the timeframes prescribed in Table 1 of the new MS4 permit.

Section 1.03 Campus Contact Information

NVCC's Annandale campus, located in Annandale, Virginia, houses the headquarters of the College's Facilities Planning and Support Services (FP&SS) division, which is responsible for overall general implementation of the guidelines in the MS4 permit at all four campuses. In accordance with the General Permit for Stormwater Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems, the listed persons are responsible for the overall management, implementation and coordination of the NVCC stormwater program. The Director is responsible for overall management of the Facilities Planning and Support Services division at the College while the College Landscape Architect is responsible for assisting in the implementation of the MS4 program.

Daniel Wells, PE

Northern Virginia Community College
 Acting Director, Facilities Planning and Support Services, CW 310B
 8333 Little River Turnpike
 Annandale, VA 22003
 Phone: (703) 323-3065
 Fax:(703) 323-3121

Sara Rilveria

Northern Virginia Community College
 Landscape Architect, Facilities Planning and Support Services, CW314B
 8333 Little River Turnpike
 Annandale, VA 22003
 Phone: (703) 323-4160
 Fax:(703) 323-3121

The remaining campuses have smaller Buildings and Grounds Maintenance offices, which are responsible for the implementation of pollution control measures on the campus level. Each campus' facility manager oversees the implementation of the control measures mandated in the MS4 permit. Table 1-1 provides contact information for each campus' facility manager.

Table 1-1 Facility Manager Contact Information

FACILITY NAME	FACILITY MANAGER	EMAIL ADDRESS	PHYSICAL ADDRESS	PHONE No.	FAX No.
Alexandria (AL)	Aurang Zeb	azeb@nvcc.edu	5000 Dawes Avenue, Alexandria, VA 22311	(703) 845-6279	(703) 845-6001
Annandale (AN)	Steve Harrelson	sharrelson@nvcc.edu	8333 Little River Turnpike, Annandale, VA 22003	(703) 323-3267	(703) 323-3428
Loudoun (LO)	Tchakka Barrett	tbarrett@nvcc.edu	21200 Campus Drive, Sterling, VA 20164-8699	(703) 450- 2655	(703) 450-2654
Woodbridge (WO)	Anthony Harbert	aharbert@nvcc.edu	15200 Neabsco Mills Road Woodbridge, VA 22191-4099	(703) 878-5755	(703) 730-3113

Article II. Permit-Required Stormwater Pollution Control Measures

Section 2.01 Control Measure Programmatic Requirements

The VSMP General Permit for Small Municipal Separate Stormwater Sewer Systems (MS4) mandates that every permittee develop, implement and enforce a stormwater management program designed to reduce the discharge of pollutants from the small MS4, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act and the Virginia Stormwater Management Program (VSMP) Permit Regulations (4VAC50-60). At a minimum, the college's stormwater management program is required to address the six (6) control measures described in this section. The new permit also includes special conditions requirements for approved TMDLs (Chesapeake Bay TMDL and other approved TMDLs). Table 2-1 provides a general overview of the new permit requirements for each control measure. The balance of this section provides a summary and explanation of the programmatic requirements for each control measure, including the program and schedule requirements of the new permit. For more detailed information, refer to the General Permit for Stormwater Discharges of Stormwater from Small MS4s in Appendix A of this document.

Table 2-1 VSMP Permit Requirements – Six Minimum Measures

Control Measure	VSMP Permit Requirement
Public Education and Outreach on Stormwater Impacts	<ul style="list-style-type: none"> ▪ Identify minimum of three high-priority water quality issues. ▪ Annually conduct education and outreach activities to reach 20% of each high priority target audience ▪ Develop Public Education Outreach Plan – within first year of new permit cycle.
Public Involvement/ Participation	<ul style="list-style-type: none"> ▪ Maintain an updated MS4 Program Plan on the NVCC website. ▪ Post copies of the annual report on the NVCC website within 30 days of submittal. ▪ Notify the public and request comments on the updated MS4 Program Plan prior to submitting registration coverage under new permit. ▪ Conduct or sponsor a minimum of four local stormwater participation activities annually.
Illicit Discharge Detection & Elimination	<ul style="list-style-type: none"> ▪ Maintain an accurate storm sewer system map and information table showing location of MS4 outfalls, receiving waters, acreage served and name of applicable TMDLs ▪ Develop guidelines and policies to prohibit non-stormwater discharges ▪ Develop written Illicit Discharge Procedures within first year of new permit cycle
Construction Site Stormwater Runoff Control	<ul style="list-style-type: none"> ▪ Require construction site operations to use erosion and sediment controls ▪ Establish waste control requirements for construction ▪ Establish procedures to ensure the securing of a VSMP construction permit
Post-construction Stormwater Management	<ul style="list-style-type: none"> ▪ Develop and implement structural and/or non-structural BMPs ▪ Use ordinance or regulation to address post-construction runoff ▪ Ensure long-term operation and maintenance of BMPs ▪ Track BMPs type, location, discharge site, acres treated, inspection, and maintenance. ▪ Submit BMP info in the annual report
Pollution Prevention/ Good Housekeeping	<ul style="list-style-type: none"> ▪ Develop an operation and maintenance program w/ training component

Section 2.02 Public Education and Outreach on Stormwater Impacts

Public education and outreach on stormwater impacts is the keystone of an effective stormwater management program. For NVCC, the “public” refers to students, faculty, staff, visitors and communities surrounding the college. Educating the public about potential stormwater pollution sources and best management practices supports the effective implementation of the other five (5) pollution control measures. An effective program should stress the impacts of polluted stormwater discharge on the environment; report best practices for common tasks that might lead to stormwater pollution; and give contact information for reporting stormwater contaminations.

Changes included in the new general MS4 permit require NVCC to do the following as part of their Public Education and Outreach MCM (Section II.B.1):

- Develop a Public Education Outreach Plan within the first year after coverage under the new permit.
This plan must be designed to:
 - Identify three high-priority water quality issues that are contributed to by the discharge of stormwater and the rationale for the selection of these high priority issues.
 - Identify and estimate the population size of the target audience that is most likely to have significant impacts for each high-priority water quality issue.
 - Develop relevant messages and associated educational outreach materials.
 - Provide for public participation during the public education and outreach program development.
 - Conduct sufficient public outreach activities to reach 20% of the target audience on an annual basis.
- NVCC is allowed to coordinate public education and outreach efforts with other MS4 operations; however, they are individually responsible for meeting all state permit requirements.
- Public Education and Outreach Program must be evaluated for appropriateness of the high priority stormwater issues, selection of the target audiences, effectiveness of the message being delivered and effectiveness of the mechanisms of delivery that were used to reach the target audiences.
- In the annual report, NVCC must include a list of the public education activities conducted, the number of people that were reached through each activity, the percentage of the target audience that was reached and a list of the activities that will be conducted during the next reporting period with goals for number and percentage of target audience reached.

Section 2.03 Public Involvement Participation

The MS4 general permit Public Involvement and Participation MCM (Section II.B.2) requires that the public must be made aware of and participate in NVCC’s MS4 program implementation. The Public Involvement and Participation MCM in the new general MS4 permit require NVCC do the following:

- Maintain an updated MS4 Program Plan (this document) on the College's website. Review the Plan annually and make changes as necessary, in conjunction with the annual report.
- Post copies of each annual report on the College's website within 30 days of submittal to regulators and keep copies of annual reports online for the duration of this permit.
- Notify the public of their ability to comment on the MS4 Program Plan as well as all annual reports.
- Select a minimum of four local activities that NVCC will participate in through promotion, sponsorship or other involvement. The goal of these activities is to increase public participation to reduce stormwater loads and improve water quality.

Section 2.04 Illicit Discharge Detection and Elimination

The new MS4 general permit Illicit Discharge Detection and Elimination MCM (Section II.B.3) has been revised from the more descriptive approach that was required in the previous general permit cycles to a more prescriptive approach. The goal of this MCM remains the same – to detect and eliminate illicit discharges into the storm sewer system. Illicit discharges are defined in the permit as any discharges to a municipal separate storm sewer that are not composed entirely of stormwater, except discharges resulting from firefighting activities and discharges identified by and in compliance with 4VAC50-60-1220.C.2 (i.e. landscape irrigation, waterline flushing, air conditioning condensation, foundation drains, individual car washing, crawl space sump pump discharges, etc.). Illicit discharges are often a result of illegal dumping or illicit connections, where a non-stormwater pipe is incorrectly connected to the storm system. All campuses are required to promote, publicize and facilitate public reporting of illicit discharges into or from NVCC.

As required by the MS4 permit, each campus must map the storm sewer system with the location of major outfalls and surface waters that receive discharge originating from the campus. If not already completed, the MS4 has 48 months of coverage under the new permit (per Table 1 of revised 4VAC50-60-1240). The storm sewer system maps must show the following information, at a minimum:

- Location of all MS4 outfalls. In the case when an outfall is located outside of the MS4's legal responsibility, a point of discharge may be selected that is closest to the actual outfall. Each outfall requires a unique identifier, which must be labeled on the map.
- Name and location of all waters receiving discharges from the MS4 outfalls and the associated Hydrologic Unit Code (HUC).

The following information must be maintained in a table, which corresponds to each unique MS4 outfall:

- The unique identifier for each MS4 outfall (done by campus for NVCC)
- The estimated MS4 acreage that each outfall serves
- The name of the receiving water body and whether the receiving water is listed on the Virginia 303(d)/305(b) list
- Name of any applicable TMDLs

The new MS4 permit requires some changes from what was required by the last permit with regard to the Illicit Discharge Detection and Elimination MCM. The changes and new requirements are summarized as follows:

- Copies of the current storm sewer system maps and outfall information tables must be available for review upon request by the public or by regulators.
- NVCC must notify, in writing, the downstream MS4 of any known physical interconnection.
- NVCC must effectively prohibit, through ordinance or other legal mechanism, non-stormwater discharges into the storm sewer system to the extent allowable under federal, state or local law or regulation.
- Develop written Illicit Discharge Procedures within the first year of coverage under the new permit (per Table 1 of revised 4VAC50-60-1240). This Illicit Discharge Detection and Elimination Plan (IDDE Plan) must include written dry weather field screening procedures to detect and eliminate illicit discharges.
 - If the total number of outfalls in the MS4 is less than 50, then all outfalls must be screened at least once per year, after a dry weather period (typically 72 hours or more since the last rainfall event).
 - A prioritized schedule of field screening activities based on such things as age of infrastructure, land use, history of illegal discharges or dumping, etc.
 - Methods to record pertinent information such as time since last rain, quantity of last rain, estimated discharge rate, and visual observations.
 - Timeframe and methodology to conduct investigations of suspected illicit discharges to determine the source.
 - A mechanism to track all illicit discharge investigations.
- In the annual report, NVCC will be required to report the number of outfalls that were screened for illicit discharges during the reporting period, the screening results, details of any follow-up investigations performed for suspected illicit discharges and a summary of all investigations including the date the suspect discharge was observed, investigation methods and the final resolution.

Section 2.05 Construction Site Stormwater Runoff Control

The new MS4 general permit has added a number of requirements under the Construction Site Stormwater Runoff Control MCM that were not included in the last permit cycles. In general, the permit is consistent with previous permit cycles in that it establishes the minimum standards for erosion and sediment control programs that comply with all Virginia Erosion and Sediment Control Law, Regulations, and Certification Regulations (VESCL&R; Title 10.1, Chapter 5, Article 4 of the Code of Virginia, regulations are found at Section 4VAC30-50) for land-disturbing activities on state agency land and that are consistent with any local requirements that may be more stringent than the VESCL&R.

The most significant change in the new permit centers around the requirement for NVCC to exercise its authority to oversee all land disturbing activities equal to or greater than 10,000 square feet within MS4 boundaries. As discussed in Section 1.01, VCCS, BCOM or NVCC may serve as the authority for plan reviews. Inspections are performed by employees of NVCC. Program administration, depending on project scope and funding source, can be performed by either VCCS or NVCC, including the ability to enforce through stop work orders. The new responsibilities require NVCC to develop a plan for training and certification of staff in the areas of plan review, administration and inspection. However, VCCS currently manages the plan review activities for E&SC through an outside consultant, and will continue to do so. Should VCCS assume overall authority for the new MS4 permit requirements at a later date, or select an outside entity to provide those services, this MS4 Program Plan will be revised to reflect such changes.

Other requirements remain the same for this MCM:

- Requirements for construction site operators to implement appropriate erosion and sediment control (ESC) best management practices.
- Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.
- Procedures for site plan review which incorporate consideration of potential water quality impacts. DEQ gives the final approval for site plans over one acre that include permanent stormwater controls.
- Procedures to ensure the issuance of a VSMP Construction Permit before the commencement of land disturbing activities.
- Procedures for receipt and consideration of information submitted by the public.

Section 2.06 Post-construction Stormwater Management in New Development and Redevelopment

The MS4 general permit requires that new development and redevelopment projects develop, implement and enforce a program to minimize to address stormwater runoff. The program must ensure that controls that minimize water quality impacts are in place. NVCC must:

- Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for your community;
- Comply with all Virginia stormwater management regulations; and
- Ensure adequate long-term operation and maintenance of BMP's.

Section 2.07 Pollution Prevention/Good Housekeeping

NVCC is required to implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. The program must include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

Article III. Special Conditions for Approved Total Maximum Daily Loads (TMDL)

Section 3.01 TMDL Action Plans (not Chesapeake Bay TMDL)

The new small MS4 permit requires that NVCC develop updated Total Maximum Daily Load (TMDL) Action Plans for all pollutants allocated to NVCC in all approved TMDLs other than the Chesapeake Bay TMDL. Based on the schedule provided in Table 1 of the new permit, NVCC should develop TMDL Action Plans as follows:

- For all approved TMDLs that were approved BEFORE July 2008 – TMDL Action Plans must be updated with any new or modified requirements within 24 months of obtaining coverage under the new permit.
- For all TMDLs that are approved between July 2008 and June 2013 - TMDL Action Plans must be developed/updated within 36 months of obtaining coverage under the new permit.
- For all TMDLs that are approved after June of 2013 – TMDL Actions Plans must be developed that identify Best Management Practices (BMPs) that will be implemented for pollutants identified in TMDL waste load allocations.

As part of the requirements of the TMDL Special Conditions (Section I.B), NVCC must develop the following:

- A list of its legal authorities including specific contract language and interjurisdictional agreements that are applicable to reducing the pollutant identified in a WLA. As discussed earlier, VCCS has delegated authority for the NVCC campuses, through the General Assembly.
- An updated list of all additional management practices, control techniques and system design and engineering methods beyond those in the Minimum Control Measures (Section II.B) that have already been implemented, which are capable of reducing the pollutant identified in each WLA.

Table 3-1 lists all impaired waters that NVCC campuses discharge to, the pollutant that is regulated, and the WLA for that pollutant for those water bodies that have an approved TMDL.

Section 3.02 Chesapeake Bay TMDL Action Plan

The new small MS4 permit requires that NVCC develop and submit a phased Chesapeake Bay (CB) TMDL Action Plan within 24 months of receiving coverage under the new permit. Once complete, this CB TMDL Action Plan will be referenced in this MS4 Program Manual. The CB TMDL Action Plan must include all components required by Section I.C of the new small MS4 permit.

Table 3-1 Current Water Impairment/TMDL List

for NVCC Campuses

NVCC Campus	Waterbody Name	Pollutant(s)	Status of TMDL	Wasteload Allocation (WLA)	Comments
Indirect Discharges to Impaired Waters					
Woodbridge	Neabsco Creek	E.coli	TMDL Final Report 4/30/2008 ⁵ (EPA approved 7/10/2008)	1.05×10^{12} cfu/day	WLA for Prince William County, PWC Public Schools, VDOT and NVCC combined. See Table 19 in TMDL report.
Impairments/TMDLs that Affect Multiple Campuses					
Four Campuses	Chesapeake Bay	Phosphorus, Nitrogen and Sediment	In progress	5% load reduction in first permit cycle	Refer to Tables 2b and 3b in the new Phase II MS4 Permit for pollutant of concern reductions required in the first permit cycle.

Article IV. Campus Specific Information

Section 4.01 Alexandria (AL) Campus

The Northern Virginia Community College, Alexandria Campus, (NVCC AL) is a 39 acre site is bounded by Dawes Avenue, North Beauregard Street and Fillmore Avenue in the City of Alexandria. The Alexandria Campus is one of the six campus locations of Northern Virginia Community College. NVCC Alexandria is an open access, comprehensive community college that has facilities used by faculty, staff, students and visitors.

(a) Site Plan (AL)

Figure 4-1 shows campus maps with locations relevant to stormwater management indicated by letters. A map key and descriptions locations are listed in Table 4-1.

Table 4-1 Alexandria Site Map Locations Key

Key	Location	Description
A	AM Maintenance Building	Maintenance
B	AP1 Dawes Avenue Parking Garage	Parking
C	AA Bisdorf Building	Chemistry; Biology
D	AE Engineering Building/Automobile Shop	Automotive Shop
E	AT Tyler Building	Photography, art
F	AS Schlesinger Concert Hall	Music, meeting rooms
G	AP2 Beauregard Street Parking Garage	Parking
Stormwater Management Relevant Locations		
1	Bioretention Facility A	Treats roof runoff from Phase III Bisdorf Building
2	Dry Detention Basin	Stores/Treats water before leaving site
A	Outfall	Southeast of AS. Drains to Lucky Run.
1	Maintenance	Maintenance activities
2	Dumpsters/Recycling	Solid waste storage
3	Automotive Shop	Used Oil and Antifreeze containment system
4	Dumpsters	Solid waste storage.

(b) Stormwater Drainage (AL)

NVCC Alexandria's storm sewer system consists of approximately 146 structures including curb and yard inlets, one detention basin, one bioretention facility sub-surface piping and concrete channels. The campus is bordered on the north and east sides by a dry creek (see Figure 4-1). There are no distinguishable drainage areas on the campus grounds. The campus ultimately drains eastward and southward to Lucky Run, which flows into Four Mile Run. Four Mile Run is a tributary to the Potomac River. There is one outfall, as shown on Figure 4-1, which discharges into the City of Alexandria's MS4 system. There is a small area surrounding the AS building that drains into a dry detention basin (near outfall 1) which has subsurface piping that discharges directly into Lucky Run.

(c) Campus Facilities (AL)

In addition to traditional classroom facilities, campus facilities that could potentially impact stormwater quality include: the Maintenance facility (AM), dumpster/recycling locations and the Automotive shop (AE). These facilities use and/or store hazardous and universal materials and/or waste that are used as a part of their respective typical operating procedures.

(d) Potential Pollution Sources (AL)

By nature as an indoor educational institution, NVCC AL does not normally store potential pollutants outside where they may be exposed to stormwater. Despite this fact, the campus has identified all potential pollution sources where universal and/or hazardous waste/materials are stored. These potential sources (type, location and volume – if applicable) are listed below. Otherwise, the potential pollutants at NVCC AL are similar to those expected for any urban/suburban areas that experience vehicular traffic. Such pollutants could include leaking vehicle fluids, brake dust, and contaminants associated with vehicular exhaust.

- Fertilizers and Pesticides (AM) – Fertilizers are not used by NVCC staff and are only used by the landscaping contractor according to prescribed application rates and weather conditions. Round-up (approximately 1-gallon) is stored in the AM building in a locked caged locker unexposed to stormwater.
- Sand/Deicing materials – Sand and deicing materials are stored on campus in bag form underneath the Dawes Avenue Garage.
- Chemistry Laboratory (AA) – The laboratory stores and uses chemicals for academic laboratory experiments and that require proper disposal. Examples of stored and used chemicals are hydrochloric acid, acetone, sodium chloride and formaldehyde. Waste chemicals go through a neutralization tank and then are discharged to the sanitary system.
- Automobile Shop (AE) – All campus vehicle maintenance (i.e. fluid changes, battery change and repairs) is performed at this location. Used oil, anti-freeze and batteries are also stored at this location.
- Photography Laboratory (AT) - The photograph laboratory uses silver in the photo development process. Waste chemicals go through a neutralization tank and then are discharged to the sanitary system.
- Fuel Storage (AM) –All refueling on campus is done with five (5) gallons gasoline containers. The campus has approximately five (5) containers that are stored in the shed next to the AM building (location B). Five (5) gallon motorcycle fuel containers are contained within two (2) C-containers onsite.
- Battery Storage (AM) – Used non-rechargeable batteries that are awaiting contractor pick-up are stored inside in the shed next to the maintenance building unexposed to stormwater.

- Recyclable Area – Metal that is generated from the vehicle maintenance facility is stored for recycling at this location. Each building loading dock with the exception of (AS) has recycling containers for commercial pick-up for paper, bottles and cans.
- Dumpster Areas— There are large (5-8 cu. yd.) dumpsters on the campus grounds used to store the solid waste generated by campus activities and operations. CSI is the contractor that handles the transportation and disposal of the campus' non-hazardous solid waste.

Section 4.02 Annandale (AN) Campus

The Northern Virginia Community College Annandale Campus is a 77-acre site located at the intersection of VA-236 (Little River Turnpike) and Wakefield Chapel Road in Fairfax County. The Annandale Campus is one of the six campus locations of NVCC. NVCC Annandale is an open access, comprehensive community college that has facilities used by faculty, staff, students and visitors.

(a) Site Plan (AN)

Figure 4-2 shows campus maps with locations relevant to stormwater management indicated by letters. A map key and descriptions of locations are listed in Table 4-2.

Table 4-2 Annandale Site Map Locations Key

Key	Location	Description
A	CW Warehouse	Warehouse & Facilities Planning & Support Services
B	CT TV Tech Building	Engineering, Mechanical Engineering Technician, Microcomputer Repair Program
C	CC Classroom Building	General classrooms (no equipment or laboratories)
D	CA Student Services Building	Student Services, Police, Bookstore, Classrooms
E	CF Food Services Building	Cafeteria, Offices
F	CM McDiarmid Building	Liberal Arts, Music
G	CG Godwin Building	Administration, Classroom
H	CE Ernst Community Cultural Center	Multi-purpose, Cultural Center, Gym
I	CS Shuler Building	Biology, Chemistry, Fire Science, Geology
J	CN English/Liberal Arts Building	General classrooms
K	CP Parking Garage	Parking
L	CH Brault Building	Administration
M	CBG Physical Plant Building	Buildings & Grounds, Vehicle Maintenance

Key	Location	Description
Relevant Stormwater Management Locations		
1	Retention Pond	NE side of building CW
2	Infiltration Trench	North of CA
3	Bioretention Facility	Located in front of new CA building
4	Dry Detention Basin	North of CW building
5	Retention pond	South of parking garage CP
6	Dry Detention Basin	South of building CE
7	Dry Detention Basin	South of building CM
8	Bioretention Facility	East of parking garage CP
A	Outfall	NE side of building CW. Drains to unnamed tributary of Accotink Creek
1	Warehouse Loading dock	West of CW building
2	Maintenance	Maintenance activities/fuel storage
5	Vehicle Storage	Northeast side parking lot
3,4,6,7,8	Dumpster Areas/Loading docks	Solid waste storage. Various locations

(b) Stormwater Drainage (AN)

NVCC Annandale's storm sewer system consists of approximately 210 structures including detention/retention ponds, inlets, outfalls and culverts connected by subsurface piping and open channels. The campus is comprised of two main drainage areas: the northern drainage area, which extends from building CG north to Little River Turnpike; and the southern drainage area, which extends from building CG south to the southern campus border. Both areas drain into a small unnamed tributary of Accotink Creek, which flows along the eastern border of the campus. Accotink Creek is a major tributary of the Potomac River. Although stormwater from the surrounding area does flow onto NVCC property, the campus has not experienced any identifiable non-point stormwater pollution problems from offsite drainage, or any notable problems with onsite stormwater drainage. Flow directions for both the northern and southern drainage areas are shown on Figure 4-2.

(i) Northern Drainage Area

Stormwater from the northern drainage area is conveyed through subsurface piping and drains into the campus lake (Pond 1) located at the northern end of the campus. The lake has two (2) spillway structures. Stormwater flows through the principal spillway pipe at a certain water elevation. The pond can also be drawn down by a control valve. It discharges directly into the small creek north of the building CW (Outfall A). The auxiliary spillway pipe carries overflow from the lake and ultimately reaches outfall A, located in the woods at the base of the dam embankment. The outfall structure is located in the middle of a dry detention basin. The detention basin was built specifically as a BMP for stormwater management; it releases water into the small creek that drains into an unnamed tributary to Accotink Creek. A small portion of the northern drainage area, mainly encompassing the buildings CW and CBG, drains offsite to the north side of the CBG building.

(ii) Southern Drainage Area

The southern drainage area also conveys stormwater via subsurface piping. The area's stormwater drains eastward via subsurface piping. Runoff from the large parking lot at the southern end of the campus discharges offsite. Runoff from the parking garage (CP) drains to a small retention pond (5) located in front of the garage. The outlet of this pond discharges to subsurface piping that drains offsite. Runoff from Northeast of the parking garage (CP) drains to a bioretention facility (8) which outlets to subsurface piping that drains offsite. Runoff from the CN and CE buildings and surround areas drains to the dry detention basin (6), which discharges offsite via subsurface piping. Runoff from the CM building and the west side of the CA building drains to dry detention basin (7), which discharges offsite via subsurface piping. Runoff from the new CA building drains to Bioretention Facility-A (3), which discharges offsite via subsurface piping. Runoff from the CT building and the A-parking lot discharges directly offsite via subsurface piping. All of the aforementioned ponds and the bioretention facility were built as BMPs for stormwater management.

(c) Campus Facilities (AN)

In addition to traditional classroom facilities, campus facilities that could potentially impact stormwater quality include: the Warehouse (CCW) loading dock, Maintenance (CBG) Building, a vehicle storage area and various dumpster and loading dock locations. These facilities use and/or store hazardous and universal materials and/or waste that are used as a part of their respective typical operating procedures.

(d) Potential Pollution Sources (AN)

By nature as an indoor educational institution, the Annandale campus does not normally store potential pollutants outside where they may be exposed to stormwater. Despite this fact, the campus has identified all potential pollution sources where universal and/or hazardous waste/materials are stored. There potential sources are listed below. Otherwise, the potential pollutants at NVCC AN are similar to those expected for any urban/suburban areas that experience vehicular traffic. Such pollutants could include leaking vehicle fluids, brake dust, and contaminants associated with vehicular exhaust.

- Fertilizers and Pesticides – Fertilizers are not used by NVCC staff and are only used by the landscaping contractor according to prescribed application rates and weather conditions. There are no fertilizers stored on campus. The campus grounds staff uses RoundUp as weed killer in the spring months in the parking lots. Staff does not apply Round-Up immediately before known wet weather events. During the spring season, a 2.5 gallon closed container of RoundUp is stored inside of the building CBG on a shelf where is not exposed to stormwater. Pesticides are purchased on the as-needed basis and are not stored on campus.
- Sand/Deicing Materials – Sand and deicing materials are obtained through VDOT on the as-needed basis. Ice melt pellets are stored on the (CF) loading dock and in (2) C-containers in the southeast parking lot.
- Chemistry laboratory (CS) – The laboratory stores and uses chemicals that require proper disposal for academic laboratory experiments. Examples of stored and used chemicals are hydrochloric acid, acetone, sodium chloride and formaldehyde.

- Vehicle Maintenance Facility (CBG) – All campus vehicle maintenance (i.e. fluid changes, battery change and repairs) is performed at this location. Used oil, anti-freeze and batteries are also stored at this location.
- Fuel Storage - There are two (2) underground double walled fiber glass storage tanks that store gasoline and diesel fuel. The volume of the gasoline storage tank is 2,000 gallons, and the volume of the diesel fuel tank is 1,000 gallons.
- Battery Storage – Used non-rechargeable batteries that are awaiting contractor pick-up are stored in storage bins on the north side of the CW building. Old vehicle batteries are stored inside the vehicle maintenance facility (CBG) on a wooden platform unexposed to stormwater.
- Dumpster Areas – There are several dumpsters strategically located on the campus grounds to store the waste generated by campus activities and operations. Fairfax County Solid Waste Collection Division handles the transportation and disposal of the campus' non-hazardous solid waste.
- Recyclables Area - Recyclables are stored in an open area outside building CW. Fairfax County Solid Waste Collection Division handles the transportation and disposal of the campus' recyclable materials.

Section 4.03 Loudoun (LO) Campus

The Northern Virginia Community College, Loudoun Campus is a 109-acre site located at the intersection of Harry Flood Byrd Highway (Route 7) and Potomac View Road (Route 637) in Loudoun County. The Loudoun Campus is one of the six campus locations of Northern Virginia Community College. NVCC Loudoun is an open access, comprehensive community college that has facilities used by faculty, staff, students and visitors.

(a) Site Plan (LO)

Figure 4-3 shows campus maps with locations relevant to stormwater management indicated by letters. A map key and descriptions of locations are listed in Table 4-3.

Table 4-3 Loudoun Site Map Locations Key

Key	Location	Description
A	LM Maintenance Building	Storage/Facilities & Maintenance
B	LA Animal Science Building	Vet Technology
C	LD Temporary Classroom Building	Classrooms
D	LG Greenhouse	Greenhouse
E	LS Natural Science Building	Labs
F	LW Waddell Building	Classrooms, theater

G	LR Reynolds Building	Classroom and Administrative
H	LC Learning Commons Building	Library, Offices, Classrooms, Cafeteria
I	LSW Storage Warehouse Building	Storage
Relevant Stormwater Management Locations		
1	Retention Pond	SE Corner of campus between LW and LC
2	Retention Pond	North of B1 parking lot
3	Dry Detention Basin A	West of LA.
4	Dry Detention Basin B	Located west of the greenhouse.
5	Dry Detention Basin C	Drainage from bioretention facilities A & B & parking lot.
6	Vegetated Filter Strip	Drains to Bioretention Facility A
7	Vegetated Filter Strip	Drains to Bioretention Facility B
8	Bioretention Facility A	North edge of north parking area.
9	Bioretention Facility B	North edge of north parking area.
10	Filterra	North edge of north parking area.
A-M	Outfalls	Various locations
1	Maintenance	Maintenance activities
2-5	Dumpster/Loading docks	Solid waste storage. Various locations

(b) Stormwater Drainage (LO)

NVCC Loudoun's storm sewer system consists of approximately 87 structures. The campus is composed of two (2) main drainage areas: the northern drainage area, which includes the campus area outside of Loop Road to the northern campus border and the southern drainage area, which the area inside of Loop Road plus the areas outside of Loop Road that are south of South Cottage Road to the southern border of the campus. Stormwater from the northern drainage area drains northward through a small unnamed tributary and is discharged beyond the campus border. The remainder of the runoff from the northern end of the campus (including the north parking lot) discharge to two bioretention facilities, then to dry detention basin C. The southern portion of the campus property drains to the campus ponds (Retention Ponds 1 and 2) which discharges into a small stream/channel, which discharges beyond the campus border. To date, the Loudoun campus has not experienced any issues/problem with its storm sewer system. While stormwater from the surrounding area does flow onto NVCC property, the campus has not experienced any identifiable non-point stormwater pollution problems. Flow directions for both the northern and southern drainage areas are shown on Figures 4-3.

(i) Northern Drainage Area

The northern drainage area receives water from the northern eastern and northwestern portions of the campus (including off-campus drainage from the east). Runoff from the new northern parking lot flows to two Bioretention Facilities which are located at the northern edge of the new parking lot. The bioretention facilities discharge to a dry detention pond C, which then discharges to outfall L.

(ii) *Southern Drainage Area*

Water from the southern drainage area is conveyed to separate BMPs. The southern drainage area has four BMPs including two dry detention basins (locations 3 and 4) and two ponds (Pond 1 and Pond 2). Pond 1 receives water from the southern portion of the campus via several outfalls. Pond 1 has a weir outfall structure that conveys water to a concrete channel, which discharges to Pond 2, which in turn discharges beyond the campus property boundary into a large unnamed tributary to the Potomac River.

(c) Campus Facilities (LO)

In addition to traditional classroom facilities, campus facilities that could potentially impact stormwater quality include: the Maintenance facility (LM) and dumpster/loading dock locations. These facilities use, generate, and/or store hazardous and universal materials and/or waste that are used as a part of their respective typical operating procedures.

(d) Potential Pollution Sources (LO)

By nature as an indoor educational institution, the Loudoun campus does not normally store potential pollutants outside where they may be exposed to stormwater. Despite this fact, the campus has identified all potential pollution sources where universal and/or hazardous waste/materials are stored. There potential sources are listed below. Otherwise, the potential pollutants at NVCC LO are similar to those expected for any urban/suburban areas that experience vehicular traffic. Such pollutants could include leaking vehicle fluids, brake dust, and contaminants associated with vehicular exhaust.

- Fertilizers and Pesticides (green house) – Fertilizers are not used by NVCC staff on the campus grounds. The Horticulture program uses and stores small quantities of fertilizers and pesticides as a part of its academic program in a lab classroom.
- Sand/Deicing Materials – Sand and deicing materials are obtained through VDOT. Some sand is stored at the LM building, covered and unexposed to stormwater. De-icing materials are dispersed on the as-needed basis and are otherwise stored securely inside the maintenance building (LM2).
- Science laboratory (LS) – The laboratory stores and uses chemicals that require proper disposal for academic laboratory experiments. Examples of stored and used chemicals are hydrochloric acid, acetone, sodium chloride and formaldehyde.
- Maintenance Facility (LM2) – All campus vehicle maintenance (i.e. fluid changes, battery change and repairs) is performed at this location. Used oil, anti-freeze and batteries are also stored at this location.
- Fuel Storage (LW2) – A 300 gallon gas and a 300 gallon diesel gas tanks are installed to the west of the Maintenance building.
- Battery Storage (LW2) – Used non-rechargeable batteries that are awaiting contractor pick-up or delivery are stored inside of the boiler room of the maintenance building. They are later taken to a battery recyclable center.

- **Dumpster Areas (D)** –Dumpsters are located at the (LR) loading dock that store the waste generated by campus activities and operations. CSI is the contractor that handles the transportation and disposal of the campus' non-hazardous solid waste.
- **Recyclables Area (E)** - Recyclables are stored in one of the three dumpsters in an open area outside the LR building. CSI is the contractor that handles the transportation and disposal of the campus' recyclable materials.
- **Dog Runs (LK)** – the Dog Runs area is used by dogs and cats that are a part of the veterinary program at NVCC Loudoun. The dog run is cleaned daily.
- **Small Animal Housing (LA)** – The LA building houses approximately six (6) dogs and ten (10) cats at any given time for academic purposes.

Section 4.04 Woodbridge (WO) Campus

The Northern Virginia Community College (NVCC), Woodbridge Campus is a 138-acre site located on the west side of Neabsco Mills Road in Prince William County. The Woodbridge Campus is one of the six campus locations of NVCC. NVCC Woodbridge is an open access, comprehensive community college that has facilities used by faculty, staff, students and visitors.

(a) Site Plan (WO)

Figure 4-6 shows campus maps with locations relevant to stormwater management indicated by letters. A map key and descriptions locations are listed in Table 4-6.

Table 4-6 Woodbridge (WO) Site Map Locations Key

Key	Location	Description
A	(WFM) Facility Maintenance Building	Maintenance, Garages
B	(WAS) Art and Science Building	Administration, Offices, Cafeteria, Classrooms, Library, Science Labs
C	(WC) Seefeldt Building	Administration, Classrooms
D	(WB) Bookstore	Bookstore
E	(WAC) Classroom & HVAC Lab Building	Classrooms, Lab
F	(WH) HVAC Lab Building	Lab
G	(WM) Maintenance Building	Storage

Stormwater Management Relevant Locations

1	West edge of campus	Retention pond
2	Dry Detention Basin	West of WAS building
3,4,7	Rainwater Harvesting Cisterns	Southwest B lot, Southeast A lot, West of WAS
5,6	Vegetated Roofs	WAS
8	Permeable Pavers	West of WAS building

A-M	Outfalls	Various Locations
1	Service Support	Maintenance activities
2	Maintenance	Storage
3	HVAC Lab Building	HVAC equipment

(b) Stormwater Drainage (WO)

NVCC Woodbridge's storm sewer system consists of approximately 95 structures. The campus is comprised of two main drainage areas: eastern drainage area and the western drainage area. Campus Drive (the campus' main road) is the boundary for each drainage area. The western portion of the campus drains to the campus lake (Pond 1), which then flows through an unnamed tributary to Neabsco Creek. The eastern portion of the campus flows through another unnamed tributary to Neabsco Creek. Neabsco Creek is a major tributary of the Potomac River. Although stormwater from the surrounding area does flow onto NVCC property, the campus has not experienced any identifiable non-point stormwater pollution problems from offsite, or any notable problems with onsite stormwater drainage.

(i) Eastern Drainage Area

Stormwater from the eastern drainage areas is conveyed through subsurface piping and drains into a small unnamed creek located on the south side of the campus.

(ii) Western Drainage Area

The western drainage area also conveys stormwater via subsurface piping and an open channel that flows along the western border of the campus. The western portion of the campus drains into the campus lake, which is also located along the western border of the campus. The lake has two spillway structures. One structure is the principal intake structure that is located in the center of the lake that discharges water through the principal pipe to a small unnamed tributary of Neabsco creek. Water overflowing the lake flows through an auxiliary structure and discharges into a chute which outlets at a small unnamed tributary of Neabsco creek.

(c) Campus Facilities (WO)

In addition to traditional classroom facilities, campus facilities that could potentially impact stormwater quality include: the science laboratory (WC), HVAC Lab building (WH), maintenance building (WM) and Facility Maintenance building (WFM). These facilities use and/or store hazardous and universal materials and/or waste that are used as a part of their respective typical operating procedures.

(d) Potential Pollution Sources (WO)

By nature as an indoor educational institution, the Woodbridge campus does not normally store potential pollutants outside where they may be exposed to stormwater. Despite this fact, the campus has identified all potential pollution sources where universal and/or hazardous waste/materials are stored. The potential sources are listed below. Otherwise, the potential pollutants at NVCC WO are similar to those expected for any urban/suburban areas that experience vehicular traffic. Such pollutants could include leaking vehicle fluids, brake dust, and contaminants associated with vehicular exhaust.

- Fertilizers and Pesticides – Fertilizers are used by NVCC staff and landscaping contractors according to prescribed application rates and weather conditions. Large quantities of fertilizer are not stored on campus. Fertilizer is purchased on the as needed basis, and any leftover materials are stored in a locker inside of the maintenance facility unexposed to stormwater. Herbicides and pesticides are purchased on the as-needed basis and any remaining small quantity of herbicide/pesticide is stored inside the maintenance facility on a shelf, where it is not exposed for stormwater.
- Sand/Deicing Materials – Sand and deicing materials are obtained through VDOT on an as-needed basis. Ice melt is stored on campus under the cover of a roof in the back of the (WM) building on a pallet.
- Science Laboratory (WS) – The laboratory stores and uses chemicals that require proper disposal for academic laboratory experiments. Examples of stored and used chemicals are hydrochloric acid, acetone, sodium chloride and formaldehyde. Paint is stored in a locker in this building.
- Maintenance Facility (WFM) – the maintenance facility is located in the northeast quadrant of the campus. All campus equipment (i.e. weed eaters, chain saws, gas generators, edgers) and vehicle maintenance (i.e. fluid changes, battery changes and repairs) is performed at this location. Used oil, anti-freeze and batteries are stored at this location.
- Fuel Storage (WFM) – There is a 180-gallon double walled diesel fuel tank that is used for the emergency generator located east of the Seefeldt Building (WS). There are five (5) gallon gasoline containers that are stored in a flammable contaminant locker at the east end of the maintenance building (E) and both a fifty-five (55) gallon truck mounted diesel fuel tank and a (55) gallon truck mounted gasoline fuel tank that is parked outside of the maintenance building when not in use.
- Battery Storage – All rechargeable batteries are stored in the Facility Manager's office in the Seefeldt Building (WS). Vehicle batteries are stored in a shed next to the WM building, on a shelf where they are not exposed to stormwater.
- Dumpster and Recyclables Areas – Dumpsters that hold trash, recyclables (glass, aluminum, plastic) and cardboard are located behind the loading dock adjacent to the Seefeldt building (WS). AAA Refuse and Recycling is the contractor that handles the transportation and disposal of the campus' non-hazardous solid waste.
- Photography Laboratory (WAS) - The photography laboratory uses silver in the photo development process. The WAS building provides for proper storage of photographic chemicals.
- HVAC Laboratory (WH) – The building includes a classroom and laboratory facility. Freon used for classroom activities is used and stored in the HVAC laboratory.

Article V. Minimum Control Measures – NVCC Stormwater Program

This section includes a summary of the current programs in place for NVCC to meet each of the six Minimum Control Measures (MCMs) described in Article II of this MS4 Program Manual, as required by Section II.B of the new small MS4 general permit, as well as upcoming plans for the next permit year. Additional requirements of the new MS4 permit will be implemented in accordance with the schedule provided in Table 5-1 (derived from VAR04 Table 1: Schedule of MS4 Program Plan Updates Required in this Permit). In addition, Table 5-2 describes BMP-specific information, including objectives and expected results, schedule and status, responsible party, and the measureable goal for each BMP

Table 5-1 Schedule of NVCC Program Plan Updates

Program Update Requirement	Update Completed By:	Comments
TMDL-Related Special Conditions		
Neabsco Creek TMDL Action Plan (Approved between 7/08-6/13)	June 30, 2015	TMDL Final Report 4/30/20085 (EPA approved 7/10/2008)
Chesapeake Bay TMDL Action Plan	June 30, 2015	In progress
TMDLs Action Plans approved after 2013	36 mo. after approval	
MCM: Public Education and Outreach		
Public Education Outreach Plan	June 30, 2014	Completed
MCM: Illicit Discharge Detection and Elimination		
Outfall Map Completed	June 30, 2017	Completed
Illicit Discharge Procedures	June 30, 2014	Completed
MCM: Construction Site Stormwater Runoff Control		
Construction Review/Inspection Procedures	July 1, 2013	Completed
MCM: Post-Construction Stormwater Management		
Operator Owned SWM Inspection Procedures	June 30, 2014	Completed
SWM Progressive Compliance & Enforcement	June 30, 2015	In progress
MCM: Pollution Prevention/Good Housekeeping for Municipal Operations		
Daily Good Housekeeping Procedures	June 30, 2015	Completed
Identify SWPPP Locations	June 30, 2014	Completed
Develop and Implement SWPPPs	June 30, 2017 (with internal goals)	Interim goals in progress
Nutrient Management Plan (NMP)	June 30, 2014	Approved 9/6/2012
NMP Implementation	June 30, 2018	In progress
Training Schedule and Program	June 30, 2014	Completed

NVCC
Stormwater Management Program Manual

Table 5-2 Summary of BMP Implementation Information

	Minimum Control Measure (MCM)	BMP No.	Description of BMP	Objective and Expected Results	Schedule/Status	Responsible Party	Measurable Goals/Evaluation of Effectiveness
1	Public Education and Outreach	1.1	Post stormwater awareness posters	Educate students, grounds maintenance and kitchen staff on their role in preventing stormwater pollution	Complete	Facility Planning and Support Services	Difficult to quantify. Ability to disseminate knowledge about this issue to the public is goal. Posters also educate about illicit discharges in conjunction with MCM #3.
		1.2	Posting link to SWMP website on NVCC website	Help public to find the SWMP website, which educates on causes of stormwater pollution.	Complete	Facility Planning and Support Services, IT Dept.	Difficult to quantify. Ability to disseminate knowledge about this issue to the public is goal.
		1.3	Include reference to SWMP website in student handbook	Help public to find the SWMP website, which educates on causes of stormwater pollution.	Complete	Facility Planning and Support Services	Difficult to quantify. Ability to disseminate knowledge about this issue to the public is goal.
		1.4	Develop Public Education and Outreach Program	Identify water quality targets, audience, educational materials, and outreach plan for 2013-2018 Permit Cycle.	Complete	Facility Planning and Support Services	Reach 20% of target audience for each of the three water quality targets in each year.
		1.5	Update SWMP website	Include more information on how the public can play a role in preventing stormwater pollution.	Complete	Facility Planning and Support Services, IT Dept.	Track website hits after it goes live to see if outreach efforts increase website traffic. Goal is to educate public and allow for review and comments of SWMP elements.
2	Public Involvement/Participation	2.1	Green Festival	Family event to raise awareness on environmental issues	Spring 2014	Facility Planning and Support Services	Difficult to quantify. Ability to disseminate knowledge about this issue to the public is goal. activities that NVCC can sponsor
		2.2	NVCC Environmental Committee	Holds monthly meetings to share environmental initiatives at all of the campuses. Plans environmental events to involve the public in their role in helping NVCC achieve environmental stewardship goals.	Ongoing	Facility Planning and Support Services, Environmental Committee members	Difficult to quantify. Ability to disseminate knowledge about this issue to the public is goal. Committee to help plan public involvement
		2.3	Post MS4 Annual Report and Program Plan on SWMP website	Allow students, faculty and the general public the opportunity to review and comment on NVCC's stormwater program.	Ongoing	Facility Planning and Support Services, IT Dept.	Main goal is to solicit comments and ideas from the public on the SWMP.
		2.4	Update SWMP website	Provide additional information about the SWMP at NVCC as well as pertinent information for students, faculty and staff about how they can participate in the program.	Spring 2013	Facility Planning and Support Services, IT Dept.	Participation events will be listed on the new website. Goal is to increase attendance at public participation events.

NVCC
Stormwater Management Program Manual

	Minimum Control Measure (MCM)	BMP No.	Description of BMP	Objective and Expected Results	Schedule/Status	Responsible Party	Measurable Goals/Evaluation of Effectiveness
3	Illicit Discharge Detention and Elimination	3.1	Inspect and evaluate 20% of storm sewer system annually	Detect illicit discharges and illegal dumping through regular inspections. Inspections performed after rain events, during full utility sweeps, and immediately after construction or renovation projects.	Ongoing - Last full system evaluation completed in 2011	Facilities Maintenance Personnel	Inspections after rain events and whole campus utility sweep inspections serve to identify illicit discharges and illegal dumping. Goal is to eliminate all illicit discharges to the NVCC storm sewer system.
		3.2	Finalize Outfall Mapping	Confirm locations of all outfalls, particularly in areas where NVCC's system connects into another MS4's system. Identify last catch basin before leaving NVCC property.	Complete by end of first permit year (6/30/2014)	Facilities Planning and Support Services	Identify the outfalls that need to be inspected as part of the revised Illicit Discharge Inspection Procedures (BMP 3.3)
		3.3	Update Illicit Discharge Inspection Procedures	Develop dry weather inspection procedures for all outfalls. Fine tune NVCC's protocols for how suspected illicit discharges are handled, including tracking methods and documentation procedures.	Complete by end of first permit year (6/30/2014)	Facilities Planning and Support Services, with assistance from Facilities Maintenance Personnel	Establish dry weather inspection procedures to detect non-stormwater flows and improve record-keeping of inspections and investigation efforts.
		3.4	Update Outfall Information Table	Update table containing outfall identifiers to include all required information per the new small MS4 permit.	Complete by end of first permit year (6/30/2014)	Facilities Planning and Support Services	Compile all information into one database to allow for more efficient tracking and reporting.
4	Construction Site Stormwater Control	4.1	Continue to utilize VCCS for ESC Plan and SWPPP Reviews and Inspection	VCCS to continue to serve as the "authority" for NVCC with regards to ESC plan reviews, construction inspections and enforcement actions.	Ongoing - prior to commencement of all land disturbing activities of greater than 2,500 sq. ft. of disturbance in CBPA or 10,000 sq. ft. in areas outside of CBPA	VCCS and Facilities Planning and Support Services	Continue to review ESC plans, inspect construction sites and enforce the requirements of the ESC plan and all applicable laws to prevent construction-related contaminants from being released from NVCC construction sites. In addition, the goal for campuses that discharge to a TMDL stream with a sediment WLA is to prohibit all sediment laden runoff from leaving the site.
		4.2	Implement Database Tracking System (also tied to BMP 5)	Implement an electronic database tracking system to manage all components of the SWMP at NVCC. In particular, construction inspection and enforcement documentation will be tracked electronically.	Complete during 2013-2014	Facilities Planning and Support Services	The goal of this tracking system is to provide a more efficient way of keeping tabs on all SWMP related information. This system should streamline reporting efforts and allow NVCC to better maintain their storm system as a whole.

NVCC
Stormwater Management Program Manual

	Minimum Control Measure (MCM)	BMP No.	Description of BMP	Objective and Expected Results	Schedule/Status	Responsible Party	Measurable Goals/Evaluation of Effectiveness
5	Post Construction Stormwater Management	5.1	Continue to utilize BCOM for SWPPP Reviews. VCCS and NVCC perform inspections of constructed stormwater controls	VCCS/BCOM to continue to serve as the "authority" for NVCC with regards to SWPPP plan reviews, and inspections of permanent stormwater controls.	Ongoing	VCCS, BCOM and Facilities Planning and Support Services	Continue to ensure that permanent stormwater controls are designed and constructed properly. This system also allows for better tracking of new BMPs that should be added to NVCC's database.
		5.2	Develop Revised Owner Operated Stormwater Management Procedures	New procedures will include detailed inspection, maintenance, and record-keeping procedures to assist facility managers with the required maintenance for all of their BMPs.	Complete by end of first permit year (6/30/2014)	Facilities Planning and Support Services and Facility Maintenance Personnel	Goal of revised procedures is to make sure that all facility managers are aware of the specific needs of their existing (and future) stormwater BMPs and have the procedures to follow to aid them with inspections and maintenance activities. Secondary goal is nutrient removal credits, since only regularly maintained BMPs qualify for nutrient removal for the Chesapeake Bay TMDL.
6	Pollution Prevention/Good Housekeeping	6.1	Identify high priority facilities at all campuses and develop SWPPPs for each facility	Focused approach on NVCC facilities that have the potential to cause stormwater pollution will direct resources to the most beneficial locations.	Identify facilities by 6/30/2014. Begin implementing SWPPP development with goal to complete all by 6/30/2017	Facilities Planning and Support Services and Facility Maintenance Personnel	Goal of the facility-specific SWPPPs is to put site-specific stormwater control procedures in place in the areas that have the potential to cause the greatest harm with regards to stormwater pollution. Training of appropriate staff will also be required. Effectiveness may be measured by a decrease in spills of hazardous materials or spills of other kinds.
		6.2	Nutrient Management Plan Implementation	Begin implementation of the approved NMP on all NVCC-owned lands where nutrients are applied to a contiguous area of more than one acre.	Started in 2012, ongoing effort	Facilities Planning and Support Services, Facility Maintenance Personnel, Building and Grounds	Goal of the NMP implementation BMP is that NVCC will cover a minimum of 15% of their identified acres by the NMP.
		6.3	Employee Training/Develop Training Schedule and Program	Revise stormwater management training materials and conduct training sessions on good housekeeping and pollution prevention to all employees.	Complete by end of first permit year (6/30/2014)	Facilities Planning and Support Services, Facility Maintenance Personnel, Building and Grounds	Ensure that all employees that are responsible for good housekeeping or pollution prevention in their respective areas receive training. Training records will be maintained to demonstrate that training was conducted. A reduction in spills and improvement in general good housekeeping is one way that the effectiveness of this program can be measured.

Section 5.01 MCM: Public Education and Outreach on Stormwater Impacts

The public education and outreach program at NVCC aims to provide the public (students, faculty, staff visitors, and neighbors) with applicable information about the effects of stormwater pollution and how it can be prevented on all of the campuses and in the surrounding community. With this goal as a foundation, the NVCC public outreach program has the following objectives:

- Identify common waste materials that contribute to stormwater pollution
- Instruct and promote the proper pollutant management and disposal techniques
- Communicate the impacts of polluted stormwater discharge on the environment and the benefit of pollution prevention
- Provide instructions for reporting stormwater pollution and actions to undertake in preventing pollution.

(a) Current Activities and Program Elements

NVCC is currently taking the actions outlined below to accomplish the program's objectives and to ensure that students, faculty, staff, visitors and neighbors are aware of the college's commitment to maintain stormwater quality:

- Posting Stormwater awareness posters in the high traffic areas of the campus. New posters were developed in 2012 for students, grounds maintenance and kitchen staff to inform them of their role in protecting stormwater quality on the NVCC campuses. Additional posters were installed on the Alexandria campus by students and faculty this permit year.
- Posting a link to NVCC's stormwater management program webpage on the campus' website.
- Referencing to the stormwater management program website has been included in the NVCC student handbook.
- Storm drain labeling to inform students and faculty that the storm drains discharge to water bodies.

(b) Activities Planned for the Next Permit Year

As shown in Table 5-1, NVCC will be working on TMDL Action Plans, a Public Outreach Plan, Outfall Mapping, Illicit Discharge Procedures, Stormwater Progressive Compliance & Enforcement Procedures, Daily Good Housekeeping Procedures, Developing and Implementing SWPPPs and Nutrient Management Plan Implementation.

Section 5.02 MCM: Public Involvement/Participation

The primary goals of the public involvement/participation program at NVCC are as follows:

1. To participate in local events aimed at increasing public participation to reduce stormwater pollutant loads and improve water quality;
2. To promote the availability of NVCC's MS4 Program Plan and any modifications for public review and comment; and
3. To provide the public with access to the annual report for the MS4 Program.

(a) Current Activities and Program Elements

To educate and engage the college community and general public in the college administration's efforts to prevent non-point source and stormwater pollution, all campuses participate in the NVCC Environmental Sustainability Action Committee. The Committee is a collection of faculty and staff from each campus. The Committee holds monthly meetings to share sustainable initiatives campus-wide, including stormwater management. The NVCC faculty and staff are invited to the committee's meetings and encouraged to voice their concerns, opinions and lessons-learned in regards to stormwater management and pollution prevention. The Committee plans environmental public outreach events for students and the general public and has advertised a notice for sustainability efforts. NVCC has a Sustainability Officer that is responsible for implementing sustainable practices at all campuses while reaching out to the public to educate them on how NVCC is committed to sustainability.

A copy of the MS4 Program Plan, as well as a copy of the previous year's annual report are available on the NVCC website. The website is also used to notify the public of all required comment periods as per Section II.B.2.a of the new MS4 permit.

(b) Activities Planned for the Next Permit Year

NVCC plans to update and improve the Stormwater Management Program website. The website will provide additional information about the Stormwater Management Program at NVCC as well as pertinent information for students, faculty and staff about how they can participate in the program.

This revised MS4 Program Plan as well as the latest annual report (for the 2013-2014 permit year) will be posted on the website. The public will be able to submit any comments on the Plan via email, which will be routed through the Facilities Planning Division.

NVCC Facilities Planning Division is exploring opportunities to partner with other internal organizations, such as the Environmental and Sustainable Action Committee, to facilitate additional public participation events and activities. NVCC is planning to participate in the Green Festival on Earth Day, which is a family event to raise awareness on environmental issues.

Section 5.03 MCM: Illicit Discharge Detection and Elimination

The illicit discharge detection and elimination (IDDE) program at NVCC addresses illicit connections and illegal dumping on the campus grounds by following standardized inspection procedures and facilitating proper community education on potential impacts to the stormwater quality. The following measures have been implemented as outlined below to actively detect and eliminate illicit connection and prevent illegal dumping.

- Inform faculty and students of the hazards associated with improper disposal of waste;
- Train staff to identify, investigate, eliminate and report an illicit discharge;
- Inventory and map stormwater outfalls;
- Conduct outfall screening; and
- Track and report annually to DEQ.

(a) Current Illicit Discharge Detection and Elimination Program

NVCC staff follows its Illicit Discharge Detection and Elimination (IDDE) Program Manual included in Appendix C. The staff is trained biennially to identify, investigate, eliminate and report illicit discharges and is given a field guide including an IDDE tracking form. A quiz is administered as a knowledge check of the effectiveness of the training for the IDDE program. A training document form, quizzes and any supplemental training material is recorded and kept for documentation purposes. The program administrator conducts annual outfall screening identified on the outfall inventory and mapping using an outfall reconnaissance inspection form.

(b) Activities Planned for the Next Permit Year

Section 5.04 MCM: Construction Site Stormwater Runoff Control

For construction activities larger than 1 acre NVCC must register for coverage under the General Permit for Discharges from Construction Activities. NVCC ensures that a Virginia Stormwater Management Program Construction Permit is obtained before the commencement of any regulated land disturbing activities on any of the NVCC campuses. As a part of the construction permitting process, VCCS reviews documents in accordance with two key pieces of state legislation: 1) Virginia Erosion and Sediment Control Law, Regulations, and Certification Regulations (VESCL&R), which requires NVCC obtain an Erosion and Sediment Control (ESC) plan and 2) The Virginia Stormwater Management Law and Regulations, which requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). VCCS's enforcement of the plans and standards prescribed by these instruments satisfies the requirements under the general MS4 permit for its construction site stormwater runoff program.

(a) Current Construction Site Stormwater Runoff Control Program

Compliance with Virginia Erosion and Sediment Control (ESC) Program Requirements

Per VESCL 10.1-564, as a state agency, VCCS performs reviews of all ESC plans for construction projects including land disturbing activities, as defined in §10.1-560. The purpose of the ESC plan is to demonstrate that the project's design supports, and is in accordance with, the nineteen (19) minimum standards of effectiveness set forth by the Virginia Erosion and Sediment Control Regulations (VESCR, 4VAC50-30-40) to control soil erosion, sedimentation and construction site runoff. A project's ESC plan includes project details such as: site description, critical areas, erosion and sediment control measures, permanent and temporary stabilization measures, grading details, etc. To ensure that an ESC plan is completed for all regulated land disturbing activities, VCCS is responsible for ESC plan approval and implementation.

The campus construction inspector is responsible for ensuring compliance with the ESC plan on construction sites. NVCC/VCCS delegates the responsibility of ensuring compliance onto contractors working on the project. The full text of 4VAC50-30-40 is included in Appendix D.

Compliance with Virginia Stormwater Management Program Requirements

Because most NVCC campuses covered in this MS4 Program Manual are located in a Chesapeake Bay Preservation area, for construction activities larger than one acre, NVCC must apply for registration for coverage under the General Permit for Discharges from Construction Activities. DEQ's construction site stormwater permits require construction site operators to develop and implement a stormwater pollution prevention plan (SWPPP) that use best management practices for erosion and sediment control at the permitted construction site. The development and implementation of the plan is overseen by the project inspector. The SWPPP and the ESC plan, together, are intended to ensure that land disturbing activities do not result in sediment and other pollutants being discharged or flowing into the storm sewer system. It should be noted that although NVCC requires that both a SWPPP and ESC Plan be developed for all regulated land disturbing activities, NVCC is permitted to, and often does, satisfy identical requirements by referencing the approved ESC plan in the corresponding SWPPP. As discussed previously in this document, DEQ serves as the authority with regards to plan review, construction inspections and enforcement.

The SWPPPs address the following issues regarding construction site stormwater runoff control (as required in Section II.D.1-5) including, but not limited to:

- Site activity and description
- Controls to reduce pollutants
- Maintenance of controls
- Inspections (site and controls)
- Non-stormwater discharge management

SWPPPs also include forms for the inspection and maintenance of stabilization controls, structural controls; recording of major grading activities and SWPPP amendments that are included in Appendix F of this document, respectively. A list of construction projects (both upcoming and ongoing) is kept with the Facilities Planning and Support Services Division.

Per Section II A.1 of the General Permit of Discharges of Stormwater from Construction Activities, the SWPPP is prepared and submitted prior to the submittal of the permit registration statement and provides for compliance with the terms and schedule committed to in the plan beginning with initiation of land disturbing construction activities. To remain in compliance with the aforementioned permit, as a general practice, VCCS must review and approve all ESC plans prior to submitting VSMP registration statement (prior to land disturbance). In addition to specific measures outlined and explained in this section, as a component of the campus' construction stormwater runoff control program, NVCC adheres to and complies with all instructions of the general permit for reporting unauthorized, unusual and extraordinary discharges and construction site inspections.

(b) Activities Planned for the Next Permit Year

NVCC utilizes numerous state agencies to serve as the authority to oversee all land-disturbing activities, depending on the type of contract and project requirements. This oversight includes plans review, site inspections, and program administration including enforcement (stop work authority). DEQ is currently the NVCC's authority for plan review and stormwater inspections. VCCS may take on that responsibility in the future.

NVCC has developed and will implement a new database that will be used to track all construction-related information required by the permit. This database will also be used to track construction site inspections, incidents of non-compliance and corrective actions.

Section 5.05 MCM: Post-Construction Stormwater Management in New Development and Development on Prior Developed Lands

NVCC's stormwater management program is designed to ensure compliance with the Virginia Stormwater Management Regulations for state projects, which set forth the technical criteria and post construction stormwater management plan requirements for state projects.

(a) Current Post-Construction Stormwater Control Program

Pursuant to 4VAC3-20-210, NVCC develops and implements a stormwater management plan that describes how existing runoff characteristic will be maintained by land development projects. At a minimum, stormwater management plans and related computations must include:

- The location and the design of the proposed stormwater management facilities
- Overall site plan with pre-developed and post developed condition drainage area maps
- Comprehensive hydrologic and hydraulic computations of the pre-development and post-development runoff conditions for the required design storms, considered individually
- Calculations verifying compliance with the water quality requirements
- A description of the requirements for maintenance of the stormwater management facilities and a recommended schedule of inspection and maintenance
- Appropriate seal and signatures by a professional in adherence to all minimum standards and requirements pertaining to the practice of that profession in accordance with Chapter 4 (§54.1-400 et seq.) of Title 54.1 of the Code of Virginia and attendant regulations.

To address these minimum plan requirements, NVCC has tasked the project managers with overseeing the execution of the following measures to ensure that the campus' stormwater management plan includes:

- Site plan details, including the design parameters and calculations of stormwater management facilities;
- Development of a site plan with pre and post developed drainage area maps;
- Detailed and comprehensive hydrological and hydraulic computations of the pre and post-development run-off coefficients;
- Calculations verifying water quality requirements and;
- A comprehensive BMP tracking and maintenance program

Facility Planning tracks and monitors the BMPs for all campuses, although each campus is responsible for the inspection and maintenance of its own BMPs. NVCC conducts annual maintenance of stormwater BMP facilities to ensure they will perform and continue their intended functions. BMP tracking and maintenance forms are included in Appendix B of this document.

(b) Activities Planned for the Next Permit Year

While NVCC's current program for post construction stormwater management meets most of the new permit requirements, a full review of all policies and revisions will be made during the next permit year (2013-2014). By June 30, 2014, NVCC plans to develop revised Owner-Operated Stormwater Management Procedures that comply with Section II.B.5.d. of the new permit. Once finalized, the new procedures will be appended to this MS4 Program Plan.

As discussed in Section 5.04(b), NVCC is in the process of developing an electronic database tracking system that will be utilized to track all elements of the Stormwater Management Program, including owner-operated stormwater management facilities that discharge into the MS4. Information that will be tracked for stormwater management facilities includes:

- The type of stormwater management facility;
- A general description of the facilities location, including the address or latitude and longitude;
- The acres treated by the facility, as well as the breakdown of pervious and impervious acres;
- The date the facility was brought online;
- The sixth order HUC in which the stormwater facility is located;
- The name of any impaired water segments that the stormwater management facility discharges to;
- Whether a maintenance agreement exists; and
- The date of the last inspection.

Section 5.06 MCM: Pollution Prevention/Good Housekeeping

NVCC's pollution prevention/good housekeeping program consists of documented operations and maintenance practices and procedures that minimize pollutants runoff from daily operational activities.

(a) Current Pollution Prevention/Good Housekeeping Program

The Pollution Prevention and Good Housekeeping Program consists of Materials Management procedures, Source Controls and an Employee Training Program. Materials Management Procedures are included as Appendix G, since some procedures vary from campus to campus. Source Controls and Employee Training procedures are described below.

Source Controls:

The following source controls are employed at all NVCC campuses:

- Vehicle Washing – All vehicles owned by the college are washed at a commercial car wash.
- Lawn Grooming and Fertilization – The Buildings and Grounds staff are responsible for lawn grooming for the Woodbridge campuses. Lawn grooming and fertilization programs are outsourced for the Annandale and Loudoun campuses. The Buildings and Grounds staff for the Alexandria campus is responsible for the lawn grooming, but the fertilization program is outsourced. Round-Up is seldom used as weed killer and is stored inside maintenance buildings.
- Parking Lot and Street Cleaning – NVCC owns several street cleaning trucks that are shared by all campuses. All parking garages are cleaned monthly. Streets and parking lots are cleaned on an as needed basis.
- Storm Drain System Cleaning – The Buildings and Grounds staff conducts in-house storm sewer structure visual inspections annually. If debris is observed, the manhole is cleaned.
- Spill Response Plan – Spill kits are kept in all areas that use and/or store hazardous materials. Training is conducted by the Buildings and Grounds staff annually. The training provides guidelines to be followed in the event of chemical or other hazardous material/waste spill. Guidelines include: reporting procedure, contact information for campus and safety measures/actions.

Training:

NVCC staff receives the following training, depending on job responsibilities:

- Hazardous Materials Training – NVCC employees who are exposed to hazardous material/waste must complete hazard communication plan training, a part of which is hazardous waste training, which includes a component on the proper disposal and transportation of hazardous materials. During training, employees are also given instructions of procedures to follow in the case of a hazardous materials spill. All Buildings and Grounds staff are required to attend training annually to maintain hands-on familiarity with the campus' EPA approved hazardous waste procedures. Training records are maintained by the Safety Committee.
- Pollution Prevention Training- Stormwater – NVCC holds annual pollution prevention training for all building and grounds employees. The pollution prevention training course is designed to educate employees about how daily campus operations and maintenance can affect stormwater quality and human health. The training discusses pollutant sources, stormwater BMPs and also incorporates stormwater pollution prevention and reduction techniques for maintenance activities. New potential pollutant sources may arise and modifications to the stormwater management plan may occur, so employees will have stormwater pollution prevention training annually. Stormwater pollution prevention training materials in Appendix G.

(b) Activities Planned for the Next Permit Year

SWPPP Development

As shown in Table 5-1, a number of program updates are required to comply with the requirements of the Pollution Prevention/Good Housekeeping MCM in the new permit. During the next permit year (by June 30, 2014), NVCC will identify all high priority facilities that will require an individual SWPPP. Facilities may include equipment storage and maintenance facilities, material storage yards, pesticide storage facilities, public works yards, salt storage facilities, and vehicle storage and maintenance yards. The list of high priority facilities will be included in the next update of this MS4 Program Plan.

Once the high priority facilities are identified, NVCC will begin developing and implementing site specific SWPPPs, with the goal of completing all SWPPPs at the end of the fourth permit year (by June 30, 2017). As SWPPPs are developed, all appropriate staff will be trained on the new procedures contained in the site-specific SWPPP.

Nutrient Management Plan Implementation

In 2012, NVCC developed a Nutrient Management Plan (NMP) (see Appendix H for approval letter), which was approved by DCR on September 6, 2012. During the next permit year, NVCC will implement NMP on all lands where nutrients are applied to a contiguous area of more than one acre. The goal is that NVCC will cover a minimum of 15% of their identified acres by the NMP.

Employee Training

During the next permit year, NVCC will revise current training materials and provide general good housekeeping/pollution prevention training to all employees. In addition, NVCC will develop an overall Training Schedule and Program by June 30, 2014 that describes what employees must receive which training and the frequency of training required. Training will be developed/updated for pollution prevention/good housekeeping, illicit discharge detection and reporting (upon completion of IDDE Plan updates), and spill response.

Appendix A

MS4 Permit

(July 1, 2013 to June 30, 2018)



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Douglas W. Domenech
Secretary of Natural Resources

Mailing address: P.O. Box 1105, Richmond, Virginia 23218
TDD (804) 698-4021
www.deq.virginia.gov

David K. Paylor
Director
(804) 698-4020
1-800-592-5482

July 1, 2013

William P. Chamberlin
Director, Facilities Planning
8333 Little River Turnpike
Annandale, VA 22003

RE: General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems
General Permit No. VAR040095
Northern Virginia Community College

Dear Permittee:

Department staff has reviewed your Registration Statement and determined that the referenced Municipal Storm Sewer System (MS4) is hereby covered under the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems. The effective date of your coverage under this general permit is July 1, 2013, or the date of this letter, whichever is later. The enclosed copy of the general permit contains the applicable reporting requirements and other conditions of coverage.

During its 2013 Legislative Session, the General Assembly passed Chapters 756 (HB2048) and 793 (SB1279) which moved several programs from the Virginia Department of Conservation and Recreation (DCR) to the Virginia Department of Environmental Quality (DEQ). As a result of this legislative change, the General Assembly transferred the administration and oversight of the General Permit for Discharges from Small Municipal Separate Storm Sewer Systems from DCR to DEQ. Please submit future permit correspondence and your annual MS4 program reports to the DEQ Northern Regional Office at the following address:

DEQ Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193

The general permit will expire on June 30, 2018. The conditions of the permit require that you submit a new registration statement on or before April 1, 2018, if you wish to have continued coverage under the general permit.

If you have any questions about this letter or the general permit, please contact Mr. Bryant Thomas, Water Permits Manager, at (703) 583-3843 or Bryant.thomas@deq.virginia.gov.

Sincerely,

A handwritten signature in black ink that reads "Melanie D. Davenport".

Melanie D. Davenport, Director
Water Division

Enc. General Permit No. VAR040095

Cc. Bryant Thomas, DEQ-NRO



COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

General Permit No.: VAR040095

Effective Date: July 1, 2013

Expiration Date: June 30, 2018

**GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM SMALL MUNICIPAL SEPARATE
STORM SEWER SYSTEMS**

**AUTHORIZATION TO DISCHARGE UNDER THE VIRGINIA STORMWATER MANAGEMENT
PROGRAM AND THE VIRGINIA STORMWATER MANAGEMENT ACT**

In compliance with the provisions of the Clean Water Act, as amended and pursuant to the Virginia Stormwater Management Act and regulations adopted pursuant thereto, this state permit authorizes operators of small municipal separate storm sewer systems to discharge to surface waters within the boundaries of the Commonwealth of Virginia, except those waters specifically named in State Water Control Board and Virginia Soil and Water Conservation Board regulations which prohibit such discharges.

The authorized discharge shall be in accordance with this cover page, Section I – Discharge Authorization and Special Conditions, Section II – MS4 Program and Section III – Conditions Applicable To All State Permits, as set forth herein. The operator shall utilize all legal authority provided by the laws and regulations of the Commonwealth of Virginia to control discharges to and from the MS4. This legal authority may be a combination of statute, ordinance, permit, specific contract language, order or interjurisdictional agreements.

Table 1: Schedule of MS4 Program Plan Updates Required in this Permit

Program Update Requirement	Permit Reference	Update Completed By
Updated TMDL Action Plans (TMDLs approved before July of 2008) – (Special Conditions for Approved Total Maximum Daily Loads (TMDL) Other Than Chesapeake Bay)	Section I B	
Chesapeake Bay TMDL Action Plan – (Special Condition for Chesapeake Bay TMDL)	Section I C	24 months after permit coverage
Stormwater Management Progressive Compliance and Enforcement – (Minimum Control Measure 4 - Construction Site Stormwater Runoff Control)	Section II B 5	
Daily Good Housekeeping Procedures (Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping for Municipal Operations)	Section II B 6 a	
Other TMDL Action Plans for applicable TMDLs approved between July 2008 and June 2013 - (Special Conditions for Approved Total Maximum Daily Loads (TMDL) Other Than Chesapeake Bay)	Section I B	36 months after permit coverage
Outfall Map Completed - (Minimum Control Measure 3 – Illicit Discharge Detection and Elimination) – Applicable to new boundaries identified as “urbanized” areas in the 2010 Decennial Census	Section II B 3 a (3)	48 months after permit coverage
SWPPP Implementation - (Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping for Municipal Operations)	Section II B 6 b (3)	
NMP Implementation - (Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping for Municipal Operations)	Section II B 6 c (1) (b)	60 months after permit coverage
*Updates should be submitted with the appropriate annual report.		

information, representative and adequate water quality monitoring results, or modeling tools to estimate pollutant reductions for the pollutant or pollutants of concern from implementation of the MS4 Program Plan. Monitoring may include BMP, outfall, or in-stream monitoring, as appropriate, to estimate pollutant reductions. The operator may conduct monitoring, utilize existing data, establish partnerships, or collaborate with other MS4 operators or other third parties, as appropriate. This evaluation shall include assessment of the facilities identified in subdivision 2 d of this subsection. The methodology used for assessment shall be described in the TMDL Action Plan.

3. Analytical methods for any monitoring shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the Environmental Protection Agency (EPA). Where an approved method does not exist, the operator must use a method consistent with the TMDL.

4. The operator is encouraged to participate as a stakeholder in the development of any TMDL implementation plans applicable to their discharge. The operator may incorporate applicable best management practices identified in the TMDL implementation plan in the MS4 Program Plan or may choose to implement BMPs of equivalent design and efficiency provided that the rationale for any substituted BMP is provided and the substituted BMP is consistent with the assumptions and requirements of the TMDL WLA.

5. Annual reporting requirements.

- a. The operator shall submit the required TMDL Action Plans with the appropriate annual report and in accordance with the associated schedule identified in this state permit.
- b. On an annual basis, the operator shall report on the implementation of the TMDL Action Plans and associated evaluation including the results of any monitoring conducted as part of the evaluation.

6. The operator shall identify the best management practices and other steps that will be implemented during the next state permit term as part of the operator's reapplication for coverage as required under Section III M.

7. For planning purposes, the operator shall include an estimated end date for achieving the applicable wasteload allocations as part of its reapplication package due in accordance with Section III M.

C. Special condition for the Chesapeake Bay TMDL. The Commonwealth in its Phase I and Phase II Chesapeake Bay TMDL Watershed Implementation Plans (WIP) committed to a phased approach for MS4s, affording MS4 operators up to three full five-year permit cycles to implement necessary reductions. This permit is consistent with the Chesapeake Bay TMDL and the Virginia Phase I and II WIPs to meet the Level 2 (L2) scoping run for existing developed lands as it represents an implementation of 5.0% of L2 as specified in the 2010 Phase I WIP. Conditions of future permits will be consistent with the TMDL or WIP conditions in place at the time of permit issuance.

1. Definitions. The following definitions apply to this state permit for the purpose of the special condition for discharges in the Chesapeake Bay Watershed:

"Existing sources" means pervious and impervious urban land uses served by the MS4 as of June 30, 2009.

"New sources" means pervious and impervious urban land uses served by the MS4 developed or redeveloped on or after July 1, 2009.

"Pollutants of concern" or "POC" means total nitrogen, total phosphorus, and total suspended solids.

"Transitional sources" means regulated land disturbing activities that are temporary in nature and discharge through the MS4.

2. Chesapeake Bay TMDL planning.

Table 2b: Calculation Sheet for Estimating Existing Source Loads for the Potomac River Basin *Based on Chesapeake Bay Program Watershed Model Phase 5.3.2				
Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	2009 EOS Loading Rate (lbs/ acre)	Estimated Total POC Load Based on 2009 Progress Run
Regulated Urban Impervious	Nitrogen		16.86	
Regulated Urban Pervious			10.07	
Regulated Urban Impervious	Phosphorus		1.62	
Regulated Urban Pervious			0.41	
Regulated Urban Impervious	Total Suspended Solids		1,171.32	
Regulated Urban Pervious			175.8	

Table 2c: Calculation Sheet for Estimating Existing Source Loads for the Rappahannock River Basin *Based on Chesapeake Bay Program Watershed Model Phase 5.3.2				
Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	2009 EOS Loading Rate (lbs/ acre)	Estimated Total POC Load Based on 2009 Progress Run
Regulated Urban Impervious	Nitrogen		9.38	
Regulated Urban Pervious			5.34	
Regulated Urban Impervious	Phosphorus		1.41	
Regulated Urban Pervious			0.38	
Regulated Urban Impervious	Total Suspended Solids		423.97	
Regulated Urban Pervious			56.01	

Table 3a: Calculation Sheet for Determining Total POC Reductions Required During this Permit Cycle for the James River Basin***Based on Chesapeake Bay Program Watershed Model Phase 5.3.2**

Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	First Permit Cycle Required Reduction in Loading Rate (lbs/ acre)	Total Reduction Required First Permit Cycle (lbs)
Regulated Urban Impervious	Nitrogen		0.04	
Regulated Urban Pervious			0.02	
Regulated Urban Impervious	Phosphorus		0.01	
Regulated Urban Pervious			0.002	
Regulated Urban Impervious	Total Suspended Solids		6.67	
Regulated Urban Pervious			0.44	

Table 3b: Calculation Sheet for Determining Total POC Reductions Required During this Permit Cycle for the Potomac River Basin***Based on Chesapeake Bay Program Watershed Model Phase 5.3.2**

Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	First Permit Cycle Required Reduction in Loading Rate (lbs/ acre)	Total Reduction Required First Permit Cycle (lbs)
Regulated Urban Impervious	Nitrogen		0.08	
Regulated Urban Pervious			0.03	
Regulated Urban Impervious	Phosphorus		0.01	
Regulated Urban Pervious			0.001	
Regulated Urban Impervious	Total Suspended Solids		11.71	
Regulated Urban Pervious			0.77	

(6) The means and methods, such as management practices and retrofit programs that will be utilized to meet the required reductions included in subdivision 2 a (5) of this subsection, and a schedule to achieve those reductions. The schedule should include annual benchmarks to demonstrate the ongoing progress in meeting those reductions;

(7) The means and methods to offset the increased loads from new sources initiating construction between July 1, 2009, and June 30, 2014, that disturb one acre or greater as a result of the utilization of an average land cover condition greater than 16% impervious cover for the design of post-development stormwater management facilities. The operator shall utilize Table 4 in this section to develop the equivalent pollutant load for nitrogen and total suspended solids. The operator shall offset 5.0% of the calculated increased load from these new sources during the permit cycle.

(8) The means and methods to offset the increased loads from projects as grandfathered in accordance with 4VAC50-60-48, that disturb one acre or greater that begin construction after July 1, 2014, where the project utilizes an average land cover condition greater than 16% impervious cover in the design of post-development stormwater management facilities. The operator shall utilize Table 4 in this section to develop the equivalent pollutant load for nitrogen and total suspended solids.

(9) The operator shall address any modification to the TMDL or watershed implementation plan that occurs during the term of this state permit as part of its permit reapplication and not during the term of this state permit.

Table 4: Ratio of Phosphorus Loading Rate to Nitrogen and Total Suspended Solids Loading Rates for Chesapeake Bay Basins

Ratio of Phosphorus to Other POCs (Based on All Land Uses 2009 Progress Run)	Phosphorus Loading Rate (lbs/acre)	Nitrogen Loading Rate (lbs/acre)	Total Suspended Solids Loading Rate (lbs/acre)
James River Basin	1.0	5.2	420.9
Potomac River Basin	1.0	6.9	469.2
Rappahannock River Basin	1.0	6.7	320.9
York River Basin	1.0	9.5	531.6

(10) A list of future projects and associated acreage that qualify as grandfathered in accordance with 4VAC50-60-48;

(11) An estimate of the expected costs to implement the requirements of this special condition during the state permit cycle; and

(12) An opportunity for receipt and consideration of public comment regarding the draft Chesapeake Bay TMDL Action Plan.

b. As part of development of the Chesapeake Bay TMDL Action Plan, the operator may consider:

- (1) Implementation of BMPs on unregulated lands provided any necessary baseline reduction is not included toward meeting the required reduction in this permit;
- (2) Utilization of stream restoration projects, provided that the credit applied to the required POC load reduction is prorated based on the ratio of regulated urban acres to total drainage acres upstream of the restored area;
- (3) Establishment of a memorandum of understanding (MOU) with other MS4 operators that discharge to the same or adjacent eight digit hydrologic unit within the same basin to implement BMPs collectively. The MOU shall include a mechanism for dividing the POC reductions created by BMP implementation between the cooperative MS4s;
- (4) Utilization of any pollutant trading or offset program in accordance with § 10.1-603.15:1 et seq. of the Code of Virginia, governing trading and offsetting;

- (2) The existing pollutant of concerns loads by an additional eight times the required reductions in loading rates using the applicable Table 3 for expanded sources identified in the U.S. Census Bureau 2010 urbanized areas;
- (3) An additional 35% reduction in new sources developed between 2009 and 2014 and for which the land use cover condition was greater than 16%; and
- (4) Accounts for any modifications to the applicable loading rate provided to the operator as a result of TMDL modification.

SECTION II

MUNICIPAL SEPARATE STORM SEWER SYSTEM MANAGEMENT PROGRAM

A. The operator of a small MS4 must develop, implement, and enforce a MS4 Program designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable (MEP), to protect water quality, to ensure compliance by the operator with water quality standards, and to satisfy the appropriate water quality requirements of the Clean Water Act and its attendant regulations. The MS4 Program must include the minimum control measures described in paragraph B of this section. Implementation of best management practices consistent with the provisions of an iterative MS4 Program required pursuant to this section constitutes compliance with the standard of reducing pollutants to the "maximum extent practicable", protects water quality in the absence of a TMDL wasteload allocation, ensures compliance by the operator with water quality standards, and satisfies the appropriate water quality requirements of the Clean Water Act and regulations in the absence of a TMDL WLA. The requirements of this section and those special conditions set out in Section I B also apply where a WLA is applicable.

B. Minimum control measures.

NOTE regarding minimum control measures for public education and outreach on stormwater impacts and public involvement/participation: "Public" is not defined in this permit. However, the department concurs with the following EPA statement, which was published in the Federal Register, Volume 64, No. 235, page 68,750 on December 8, 1999, regarding "public" and its applicability to MS4 programs: "EPA acknowledges that federal and state facilities are different from municipalities. EPA believes, however, that the minimum measures are flexible enough that they can be implemented by these facilities. As an example, DOD commentators asked about how to interpret the term "public" for military installations when implementing the public education measure. EPA agrees with the suggested interpretation of "public" for DOD facilities as "the resident and employee population within the fence line of the facility." The department recommends that nontraditional MS4 operators, such as state and federal entities and local school districts, utilize this statement as guidance when determining their applicable "public" for compliance with this permit.

1. Public education and outreach on stormwater impacts.

a. The operator shall continue to implement the public education and outreach program as included in the registration statement until the program is updated to meet the conditions of this state permit. Operators who have not previously held MS4 permit coverage shall implement this program in accordance with the schedule provided with the completed registration statement.

b. The public education and outreach program should be designed with consideration of the following goals:

- (1) Increasing target audience knowledge about the steps that can be taken to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;
- (2) Increasing target audience knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and

2. Public involvement/participation.

a. Public involvement.

(1) The operator shall comply with any applicable federal, state, and local public notice requirements.

(2) The operator shall:

(a) Maintain an updated MS4 Program Plan. Any required updates to the MS4 Program Plan shall be completed at a minimum of once a year and shall be updated in conjunction with the annual report. The operator shall post copies of each MS4 program plan on its webpage at a minimum of once a year and within 30 days of submittal of the annual report to the department.

(b) Post copies of each annual report on the operator's web page within 30 days of submittal to the department and retain copies of annual reports online for the duration of this state permit; and

(c) Prior to applying for coverage as required by Section III M, notify the public and provide for receipt of comment of the proposed MS4 Program Plan that will be submitted with the registration statement. As part of the reapplication, the operator shall address how it considered the comments received in the development of its MS4 Program Plan. The operator shall give public notice by a method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to solicit public participation.

b. Public participation. The operator shall participate, through promotion, sponsorship, or other involvement, in a minimum of four local activities annually e.g., stream cleanups; hazardous waste cleanup days; and meetings with watershed associations, environmental advisory committees, and other environmental organizations that operate within proximity to the operator's small MS4. The activities shall be aimed at increasing public participation to reduce stormwater pollutant loads; improve water quality; and support local restoration and clean-up projects, programs, groups, meetings, or other opportunities for public involvement.

c. The MS4 Program Plan shall include written procedures for implementing this program.

d. Each annual report shall include:

(1) A web link to the MS4 Program Plan and annual report; and

(2) Documentation of compliance with the public participation requirements of this section.

3. Illicit discharge detection and elimination.

a. The operator shall maintain an accurate storm sewer system map and information table and shall update it in accordance with the schedule set out in Table 1 of this section.

(1) The storm sewer system map must show the following, at a minimum:

(a) The location of all MS4 outfalls. In cases where the outfall is located outside of the MS4 operator's legal responsibility, the operator may elect to map the known point of discharge location closest to the actual outfall. Each mapped outfall must be given a unique identifier, which must be noted on the map; and

(b) The name and location of all waters receiving discharges from the MS4 outfalls and the associated HUC.

(2) The associated information table shall include for each outfall the following:

(a) The unique identifier;

(b) The estimated MS4 acreage served;

(c) The name of the receiving surface water and indication as to whether the receiving water is listed as impaired in the Virginia 2010 303(d)/305(b) Water Quality Assessment Integrated Report; and

(d) The name of any applicable TMDL or TMDLs.

(3) Within 48 months of coverage under this state permit, the operator shall have a complete and updated storm sewer system map and information table that includes all MS4 outfalls

d. The operator shall promote, publicize, and facilitate public reporting of illicit discharges into or from MS4s. The operator shall conduct inspections in response to complaints and follow-up inspections as needed to ensure that corrective measures have been implemented by the responsible party.

e. The MS4 Program Plan shall include all procedures developed by the operator to detect, identify, and address nonstormwater discharges to the MS4 in accordance with the schedule in Table 1 in this section. In the interim, the operator shall continue to implement the program as included as part of the registration statement until the program is updated to meet the conditions of this permit. Operators, who have not previously held MS4 permit coverage, shall implement this program in accordance with the schedule provided with the completed registration statement.

f. Annual reporting requirements. Each annual report shall include:

- (1) A list of any written notifications of physical interconnection given by the operator to other MS4s;
- (2) The total number of outfalls screened during the reporting period, the screening results, and detail of any follow-up actions necessitated by the screening results; and
- (3) A summary of each investigation conducted by the operator of any suspected illicit discharge. The summary must include: (i) the date that the suspected discharge was observed, reported, or both; (ii) how the investigation was resolved, including any follow-up, and (iii) resolution of the investigation and the date the investigation was closed.

4. Construction site stormwater runoff control.

a. Applicable oversight requirements. The operator shall utilize its legal authority, such as ordinances, permits, orders, specific contract language, and interjurisdictional agreements, to address discharges entering the MS4 from the following land-disturbing activities:

- (1) Land-disturbing activities as defined in § 10.1-560 of the Code of Virginia that result in the disturbance of 10,000 square feet or greater;
- (2) Land-disturbing activities in Tidewater jurisdictions, as defined in § 10.1-2101 of the Code of Virginia, that disturb 2,500 square feet or greater and are located in areas designated as Resource Protection Areas (RPA), Resource Management Areas (RMA) or Intensely Developed Acres (IDA), pursuant to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act;
- (3) Land-disturbing activities disturbing less than the minimum land disturbance identified in subdivision (1) or (2) above for which a local ordinance requires that an erosion and sediment control plan be developed; and
- (4) Land-disturbing activities on individual residential lots or sections of residential developments being developed by different property owners and where the total land disturbance of the residential development is 10,000 square feet or greater. The operator may utilize an agreement in lieu of a plan as provided in § 10.1-563 of the Code of Virginia for this category of land disturbances.

b. Required plan approval prior to commencement of the land disturbing activity. The operator shall require that land disturbance not begin until an erosion and sediment control plan or an agreement in lieu of a plan as provided in § 10.1-563 is approved by a VESCP authority in accordance with the Erosion and Sediment Control Act (§ 10.1-560 et seq.). The plan shall be:

- (1) Compliant with the minimum standards identified in 4VAC-50-30-40 of the Erosion and Sediment Control Regulations; or
- (2) Compliant with department-approved annual standards and specifications. Where applicable, the plan shall be consistent with any additional or more stringent, or both, erosion and sediment control requirements established by state regulation or local ordinance.

MS4 Program Plan. The description of each party's roles and responsibilities, including any written agreements with third parties, shall be updated as necessary.

Reference may be made to any listed requirements in this subdivision provided the location of where the reference material can be found is included and the reference material is made available to the public upon request.

f. Reporting requirements. The operator shall track regulated land-disturbing activities and submit the following information in all annual reports:

- (1) Total number of regulated land-disturbing activities;
- (2) Total number of acres disturbed;
- (3) Total number of inspections conducted; and
- (4) A summary of the enforcement actions taken, including the total number and type of enforcement actions taken during the reporting period.

5. Post-construction stormwater management in new development and development on prior developed lands.

a. Applicable oversight requirements. The operator shall address post-construction stormwater runoff that enters the MS4 from the following land-disturbing activities:

- (1) New development and development on prior developed lands that are defined as large construction activities or small construction activities in 4VAC50-60-10;
- (2) New development and development on prior developed lands that disturb greater than or equal to 2,500 square feet, but less than one acre, located in a Chesapeake Bay Preservation Area designated by a local government located in Tidewater, Virginia, as defined in § 10.1-2101 of the Code of Virginia; and
- (3) New development and development on prior developed lands where an applicable state regulation or local ordinance has designated a more stringent regulatory size threshold than that identified in subdivision (1) or (2) above.

b. Required design criteria for stormwater runoff controls. The operator shall utilize legal authority, such as ordinances, permits, orders, specific contract language, and interjurisdictional agreements, to require that activities identified in Section II B 5 a address stormwater runoff in such a manner that stormwater runoff controls are designed and installed:

- (1) In accordance with the appropriate water quality and water quantity design criteria as required in Part II (4VAC50-60-40 et seq.) of 4VAC50-60;
- (2) In accordance with any additional applicable state or local design criteria required at project initiation; and
- (3) Where applicable, in accordance with any department-approved annual standards and specifications.

Upon board approval of a Virginia Stormwater Management Program authority (VSMP Authority) as defined in § 10.1-603.2 of the Code of Virginia and reissuance of the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Construction Activities, the operator shall require that stormwater management plans are approved by the appropriate VSMP Authority prior to land disturbance. In accordance with § 10.1-603.3 M of the Code of Virginia, VSMPs shall become effective July 1, 2014, unless otherwise specified by state law or by the board.

c. Inspection, operation, and maintenance verification of stormwater management facilities.

(1) For stormwater management facilities not owned by the MS4 operator, the following conditions apply:

- (a) The operator shall require adequate long-term operation and maintenance by the owner of the stormwater management facility by requiring the owner to develop a recorded inspection schedule and maintenance agreement to the extent allowable under state or local law or other legal mechanism;

- (3) The acres treated by the facility, including total acres, as well as the breakdown of pervious and impervious acres;
- (4) The date the facility was brought online (MM/YYYY). If the date is not known, the operator shall use June 30, 2005, as the date brought online for all previously existing stormwater management facilities;
- (5) The sixth order hydrologic unit code (HUC) in which the stormwater management facility is located;
- (6) The name of any impaired water segments within each HUC listed in the 2010 § 305(b)/303(d) Water Quality Assessment Integrated Report to which the stormwater management facility discharges;
- (7) Whether the stormwater management facility is operator-owned or privately-owned;
- (8) Whether a maintenance agreement exists if the stormwater management facility is privately owned; and
- (9) The date of the operator's most recent inspection of the stormwater management facility. In addition, the operator shall annually track and report the total number of inspections completed and, when applicable, the number of enforcement actions taken to ensure long-term maintenance.

The operator shall submit an electronic database or spreadsheet of all stormwater management facilities brought online during each reporting year with the appropriate annual report. Upon such time as the department provides the operators access to a statewide web-based reporting electronic database or spreadsheet, the operator shall utilize such database to complete the pertinent reporting requirements of this state permit.

6. Pollution prevention/good housekeeping for municipal operations.

a. Operations and maintenance activities. The MS4 Program Plan submitted with the registration statement shall be implemented by the operator until updated in accordance with this state permit. In accordance with Table 1 in this section, the operator shall develop and implement written procedures designed to minimize or prevent pollutant discharge from: (i) daily operations such as road, street, and parking lot maintenance; (ii) equipment maintenance; and (iii) the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers. The written procedures shall be utilized as part of the employee training. At a minimum, the written procedures shall be designed to:

- (1) Prevent illicit discharges;
- (2) Ensure the proper disposal of waste materials, including landscape wastes;
- (3) Prevent the discharge of municipal vehicle wash water into the MS4 without authorization under a separate VPDES permit;
- (4) Prevent the discharge of wastewater into the MS4 without authorization under a separate VPDES permit;
- (5) Require implementation of best management practices when discharging water pumped from utility construction and maintenance activities;
- (6) Minimize the pollutants in stormwater runoff from bulk storage areas (e.g., salt storage, topsoil stockpiles) through the use of best management practices;
- (7) Prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment; and
- (8) Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.

b. Municipal facility pollution prevention and good housekeeping.

- (1) Within 12 months of state permit coverage, the operator shall identify all municipal high-priority facilities. These high-priority facilities shall include (i) composting facilities, (ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities, (v) public works yards, (vi) recycling facilities, (vii) salt storage facilities, (viii) solid waste handling and transfer facilities, and (ix) vehicle storage and maintenance yards.

contiguous area of more than one acre. The following measurable outcomes are established for the implementation of turf and landscape nutrient management plans: (i) within 24 months of permit coverage, not less than 15% of all identified acres will be covered by turf and landscape nutrient management plans; (ii) within 36 months of permit coverage, not less than 40% of all identified acres will be covered by turf and landscape nutrient management plans; and (iii) within 48 months of permit coverage, not less than 75% of all identified acres will be covered by turf and landscape nutrient management plans. The operator shall not fail to meet the measurable goals for two consecutive years.

(c) MS4 operators with lands regulated under § 10.1-104.4 of the Code of Virginia shall continue to implement turf and landscape nutrient management plans in accordance with this statutory requirement.

(2) Operators shall annually track the following:

- (a) The total acreage of lands where turf and landscape nutrient management plans are required; and
- (b) The acreage of lands upon which turf and landscape nutrient management plans have been implemented.

(3) The operator shall not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.

d. Training. The operator shall conduct training for employees. The training requirements may be fulfilled, in total or in part, through regional training programs involving two or more MS4 localities provided; however, that each operator shall remain individually liable for its failure to comply with the training requirements in this permit. Training is not required if the topic is not applicable to the operator's operations and therefore does not have applicable personnel provided the lack of applicability is documented in the MS4 Program Plan. The operator shall determine and document the applicable employees or positions to receive each type of training. The operator shall develop an annual written training plan including a schedule of training events that ensures implementation of the training requirements as follows:

(1) The operator shall provide biennial training to applicable field personnel in the recognition and reporting of illicit discharges.

(2) The operator shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed during road, street, and parking lot maintenance.

(3) The operator shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around maintenance and public works facilities.

(4) The operator shall ensure that employees, and require that contractors, who apply pesticides and herbicides are properly trained or certified in accordance with the Virginia Pesticide Control Act (§3.2-3900 et seq. of the Code of Virginia).

(5) The operator shall ensure that employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations.

(6) The operator shall ensure that applicable employees obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations.

(7) The operators shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around recreational facilities.

(8) The appropriate emergency response employees shall have training in spill responses. A summary of the training or certification program provided to emergency response employees shall be included in the first annual report.

(9) The operator shall keep documentation on each training event including the training date, the number of employees attending the training, and the objective of the training event for a period of three years after each training event.

the operator must note that fact in the registration statement, but is not required to file the periodic reports.

The operator remains responsible for compliance with the state permit requirements if the other entity fails to implement the control measure (or component thereof).

E. Evaluation and assessment.

1. **MS4 Program Evaluation.** The operator must annually evaluate:
 - a. Program compliance;
 - b. The appropriateness of the identified BMPs (as part of this evaluation, the operator shall evaluate the effectiveness of BMPs in addressing discharges into waters that are identified as impaired in the 2010 § 305(b)/303(d) Water Quality Assessment Integrated Report); and
 - c. Progress towards achieving the identified measurable goals.
2. **Recordkeeping.** The operator must keep records required by the state permit for at least three years. These records must be submitted to the department only upon specific request. The operator must make the records, including a description of the stormwater management program, available to the public at reasonable times during regular business hours.
3. **Annual reports.** The operator must submit an annual report for the reporting period of July 1 through June 30 to the department by the following October 1 of that year. The reports shall include:
 - a. **Background Information.**
 - (1) The name and state permit number of the program submitting the annual report;
 - (2) The annual report permit year;
 - (3) Modifications to any operator's department's roles and responsibilities;
 - (4) Number of new MS4 outfalls and associated acreage by HUC added during the permit year; and
 - (5) **Signed certification.**
 - b. The status of compliance with state permit conditions, an assessment of the appropriateness of the identified best management practices and progress towards achieving the identified measurable goals for each of the minimum control measures;
 - c. Results of information collected and analyzed, including monitoring data, if any, during the reporting period;
 - d. A summary of the stormwater activities the operator plans to undertake during the next reporting cycle;
 - e. A change in any identified best management practices or measurable goals for any of the minimum control measures including steps to be taken to address any deficiencies;
 - f. Notice that the operator is relying on another government entity to satisfy some of the state permit obligations (if applicable);
 - g. The approval status of any programs pursuant to Section II C (if appropriate), or the progress towards achieving full approval of these programs; and
 - h. Information required for any applicable TMDL special condition contained in Section I.

F. Program Plan modifications.

1. **Program modifications requested by the operator.** Modifications to the MS4 Program are expected throughout the life of this state permit as part of the iterative process to reduce the pollutant loadings and to protect water quality. As such, modifications made in accordance with this state permit as a result of the iterative process do not require modification of this permit unless the department determines that the changes meet the criteria referenced in 4VAC50-60-630 or 4VAC50-60-650. Updates and modifications to the MS4 Program may be made during the life of this state permit in accordance with the following procedures:
 - a. Adding (but not eliminating or replacing) components, controls, or requirements to the MS4 Program may be made by the operator at any time. Additions shall be reported as part of the annual report.
 - b. Updates and modifications to specific standards and specifications, schedules, operating procedures, ordinances, manuals, checklists, and other documents routinely evaluated and

2. The operator shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this state permit, and records of all data used to complete the registration statement for this state permit, for a period of at least three years from the date of the sample, measurement, report or request for coverage. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the operator, or as requested by the board.

C. Reporting monitoring results.

1. The operator shall submit the results of the monitoring required by this state permit with the annual report unless another reporting schedule is specified elsewhere in this state permit.
2. Monitoring results shall be reported on a Discharge Monitoring Report (DMR); on forms provided, approved or specified by the department; or in any format provided the date, location, parameter, method, and result of the monitoring activity are included.
3. If the operator monitors any pollutant specifically addressed by this state permit more frequently than required by this state permit using test procedures approved under 40 CFR Part 136 (2001) or using other test procedures approved by the U.S. Environmental Protection Agency or using procedures specified in this state permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the department.
4. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this state permit.

D. Duty to provide information. The operator shall furnish to the department, within a reasonable time, any information that the board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this state permit or to determine compliance with this state permit. The board may require the operator to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of surface waters, or such other information as may be necessary to accomplish the purposes of the CWA and Virginia Stormwater Management Act. The operator shall also furnish to the department upon request, copies of records required to be kept by this permit.

E. Compliance schedule reports. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this state permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized stormwater discharges. Pursuant to § 10.1-603.2:2 A of the Code of Virginia, except in compliance with a state permit issued by the board, it shall be unlawful to cause a stormwater discharge from a MS4.

G. Reports of unauthorized discharges. Any operator of a small MS4 who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance or a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110 (2002), 40 CFR Part 117 (2002) or 40 CFR Part 302 (2002) that occurs during a 24-hour period into or upon surface waters; or who discharges or causes or allows a discharge that may reasonably be expected to enter surface waters, shall notify the Department of Environmental Quality of the discharge immediately upon discovery of the discharge, but in no case later than within 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department of Environmental Quality and the Department of Conservation and Recreation, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;

J. Notice of planned changes.

1. The operator shall give notice to the department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - a. The operator plans an alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
 - (1) After promulgation of standards of performance under § 306 of the Clean Water Act that are applicable to such source; or
 - (2) After proposal of standards of performance in accordance with § 306 of the Clean Water Act that are applicable to such source, but only if the standards are promulgated in accordance with § 306 within 120 days of their proposal;
 - b. The operator plans alteration or addition that would significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this state permit; or
2. The operator shall give advance notice to the department of any planned changes in the permitted facility or activity; which may result in noncompliance with state permit requirements.

K. Signatory requirements.

1. Registration statement. All registration statements shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for state permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - c. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a public agency includes:
 - (1) The chief executive officer of the agency, or
 - (2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
2. Reports, etc. All reports required by state permits, and other information requested by the board shall be signed by a person described in Section III K 1, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Section III K 1;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the operator. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
 - c. The written authorization is submitted to the department.
3. Changes to authorization. If an authorization under Section III K 2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Section III K 2 shall be submitted to the department prior to or together with any reports, or information to be signed by an authorized representative.

S. Duty to mitigate. The operator shall take all reasonable steps to minimize or prevent any discharge in violation of this state permit that has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to halt or reduce activity not a defense. It shall not be a defense for an operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this state permit.

U. Bypass.

1. "Bypass," as defined in 4VAC50-60-10, means the intentional diversion of waste streams from any portion of a treatment facility. The operator may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Sections III U 2 and U 3.

2. Notice.

a. Anticipated bypass. If the operator knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least 10 days before the date of the bypass.

b. Unanticipated bypass. The operator shall submit notice of an unanticipated bypass as required in Section III I.

3. Prohibition of bypass.

a. Bypass is prohibited, and the board or its designee may take enforcement action against an operator for bypass, unless:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The operator submitted notices as required under Section III U 2.

b. The board or its designee may approve an anticipated bypass, after considering its adverse effects, if the board or its designee determines that it will meet the three conditions listed above in Section III U 3 a.

V. Upset.

1. An upset, as defined in 4VAC50-60-10, constitutes an affirmative defense to an action brought for noncompliance with technology based state permit effluent limitations if the requirements of Section III V 2 are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.

2. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

3. An operator who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An upset occurred and that the operator can identify the cause(s) of the upset;

b. The permitted facility was at the time being properly operated;

c. The operator submitted notice of the upset as required in Section III I; and

d. The operator complied with any remedial measures required under Section III S.

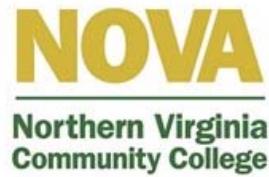
4. In any enforcement proceeding the operator seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and entry. The operator shall allow the department as the board's designee, or an authorized representative (including an authorized contractor acting as a representative of the administrator), upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the operator's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this state permit;

Appendix B

Post Construction Stormwater Management Facility Program Manual



Post-Construction Stormwater Management Inspection & Maintenance PROGRAM MANUAL

NVCC - Alexandria Campus
5000 Dawes Avenue
Alexandria, VA 22311

NVCC - Annandale Campus
8333 Little River Turnpike
Annandale, VA 22003

NVCC – Loudoun Campus
21200 Campus Drive
Sterling, VA 20164

NVCC – Woodbridge Campus
15200 Neabsco Mills Road
Woodbridge, VA 22191

June 2014

TABLE OF CONTENTS

1.0	INTRODUCTION AND PURPOSE	1
2.0	DOCUMENTATION REQUIREMENTS	2
2.1	Inspection Forms.....	2
2.2	Annual Reporting to DEQ.....	2
2.3	Program Updates and Modifications	3
3.0	INSPECTION FREQUENCY	4
4.0	STORMWATER MANAGEMENT FACILITIES	5
4.1.1	Bioretention	5
4.1.2	Dry Detention.....	6
4.1.3	Retention	6
4.1.4	Vegetated Roof	7
4.1.5	Permeable Pavement.....	7
4.1.6	Rainwater Harvesting.....	8
5.0	INSPECTION FORMS.....	9
5.1	Stormwater Management Facility Information	9
5.2	Inspection Criteria	9
5.2.1	Contributing Drainage Area	10
5.2.2	Pretreatment	10
5.2.3	Inlets.....	10
5.2.4	Sediment Forebay	10
5.2.5	Vegetation.....	10
5.2.6	Emergency Spillway	11
5.2.7	Outfall	11
5.2.8	Outlet	11
5.2.9	Principle Spillway	11
5.2.10	Riser.....	11
5.2.11	Berm/Embankment.....	11
5.2.12	Low Flow Orifice	12
5.2.13	Pond Drain System	12
5.2.14	Miscellaneous.....	12
6.0	FACILITY MAINTENANCE	13
6.1	Routine Maintenance.....	13
6.2	Corrective Maintenance.....	13

APPENDICES

- Appendix A: NVCC BMP Mapping
- Appendix B: NVCC Post-Construction Stormwater Facility Inventory
- Appendix C: BMP Inspection Forms
- Appendix D: BMP New Facility Form

ACRONYMS

BMP	Best Management Practice
CH	Virginia BMP Clearinghouse
CPESC	Certified Professional in Erosion and Sediment Control
CWA	Clean Water Act
DEQ	Virginia Department of Environmental Quality
EPA	Environmental Protection Agency
IDDE	Illicit Discharge Detection and Elimination
MEP	Maximum Extent Practical
MS4	Municipal Separate Storm Sewer System
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program

1.0 INTRODUCTION AND PURPOSE

Land development disturbs stable vegetated landscapes and increases impervious area, which in turn increases the stormwater runoff that leaves an area. Development increases pollutant concentrations in runoff, as pollution associated with development is deposited onto disturbed surfaces and carried by runoff into nearby water bodies. Such pollutants include sediment, suspended solids, nutrients, pesticides, herbicides, heavy metals, chlorides, hydrocarbons, other organics and bacteria. To remove pollutants from stormwater runoff, structures are installed to filter, slow, and treat drainage using various processes. These stormwater structures are called Best Management Practices, commonly referred to as BMPs. They are designed to reduce flooding, remove pollutants and decrease the amount of runoff from stormwater that ultimately flows to our creeks, streams, and rivers. Ensuring that these stormwater basin function correctly requires long-term maintenance and inspections.

This manual presents the standard protocol for Post-Construction Stormwater Management for the typical operations and facilities that relate to water quality. As a regulated small municipal separate storm sewer system (MS4), Northern Virginia Community College (NVCC) is obligated to meet the requirements of the MS4 General Permit. The MS4 Permit is issued through Virginia's Stormwater Management Program (VSMP) regulations, which is administered at the State level by the Virginia Department of Environmental Quality (DEQ). The MS4 program is part of the Federal National Pollutant Discharge Elimination System (NPDES), which is authorized through the Clean Water Act and regulated through the US Environmental Protection Agency (EPA).

In accordance with the MS4 Permit, NVCC must "develop, implement, and enforce an MS4 program designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable (MEP)." This Post-Construction Stormwater Management Manual has been developed as Minimum Control Measure 6 described in the MS4 Permit. The Post-Construction Stormwater Management program, which is a series of written procedures in this manual, ensures adequate long-term operation and maintenance of BMPs for NVCC.

NVCC's Post-Construction Stormwater Management Program includes three distinct components:

- **Documentation** – Procedures to document all efforts related to the Post-Construction Stormwater Management process are outlined in Section 2.0 of this manual.
- **Inspections** – A description of post-construction stormwater management facility types and a description of the components involved in the inspections process are outlined in Section 4.0 of this manual. Information and procedures for the Post-Construction Stormwater Management Facility Inspections are outlined in Section 5.0 of this manual. The stormwater facility mapping, BMP inventory, inspections forms and new facility forms can be found in the Appendices.
- **Maintenance** – Description of the types of maintenance that to be performed on the facilities is outlined in Section 6.0 of this manual.

2.0 DOCUMENTATION REQUIREMENTS

Documentation of post-construction stormwater management is critical for demonstrating compliance with the MS4 permit. All documentation related to post-construction stormwater management is required to be kept for a minimum of 3 years for annual reporting and potential audits.

2.1 Inspection Forms

Inspections are a necessary and important part of the Post-Construction Stormwater Management Program. The inspection forms will provide the necessary documentation to demonstrate when and what is being inspected. These inspection forms have been developed in accordance with the Virginia BMP Clearinghouse specifications for each type of stormwater facility and can be found in Appendix C.

The inspections forms are intended to provide documentation that the facilities were inspected on an annual basis and that any maintenance items were noted. A follow-up inspection should be completed after every noted deficiency with the following information:

- ✓ Basin Number
- ✓ Date of initial inspection
- ✓ Date corrective maintenance performed
- ✓ Description of corrective maintenance performed

2.2 Annual Reporting to DEQ

NVCC must annually report to the DEQ information pertaining to its post-construction stormwater management efforts. The information is included in the overall MS4 annual report due October 1st of each year. NVCC must maintain an electronic database or spreadsheet to be submitted annually that includes the following information, included on the spreadsheet in Appendix B:

1. The stormwater management facility type;
2. A general description of the facility's location, including the address or latitude and longitude;
3. The acres treated by the facility, including total acres, as well as the breakdown of pervious and impervious acres;
4. The date the facility was brought online (MM/YYYY). If the date is not known, the operator shall use June 30, 2005, as the date brought online for all previously existing stormwater management facilities;
5. The sixth order hydrologic unit code (HUC) in which the stormwater management facility is located;
6. The name of any impaired water segments within each HUC listed in the 2010 §305(b)/303(d) Water Quality Assessment Integrated Report to which the stormwater management facility discharges;
7. Whether the stormwater management facility is operator-owned or privately-owned;
8. Whether a maintenance agreement exists if the stormwater management facility is privately owned;
9. The date of the operator's most recent inspection of the stormwater management facility; and
10. Annually track and report the total number of inspections completed and, when applicable, the number of enforcement actions taken to ensure long-term maintenance.

2.3 Program Updates and Modifications

Modifications to the post-construction stormwater management program may occur as part of an iterative process to protect water quality. Updates and modifications to the Program may be made in accordance with the following procedures:

- Adding (but not eliminating or replacing) practices to the post-construction stormwater management Program outlined in this manual may be made by NVCC at any time. Additions shall be reported as part of the annual report.
- Updates and modifications to the post-construction stormwater management Program described in this manual are permitted provided that the updates and modifications are done in a manner that:
 - Is consistent with the conditions of the General Permit;
 - Follow any public notice and participation requirements established in the General Permit; and
 - Are documented in the annual report.
- Replacing, or eliminating without replacement, any ineffective or infeasible strategies, policies, and practices described in this manual with alternate strategies, policies, and BMPs may be requested at any time. Such requests must include the following:
 - An analysis of how or why the practices, strategies, or policies are ineffective or infeasible, including cost prohibitive;
 - Expectations on the effectiveness of the replacement practices, strategies, or policies;
 - An analysis of how the replacement BMPs are expected to achieve the goals of the practices to be replaced;
 - A schedule for implementing the replacement practices, strategies, and policies;
 - An analysis of how the replacement strategies and policies are expected to improve NVCC's ability to meet the goals of the strategies and policies being replaced; and
 - Requests or notifications must be made in writing to DEQ and signed by a principle executive officer or a duly authorized representative. The duly authorized representative must have overall responsibility of the campus operations and written authorization must be provided to the Department.
 - NVCC follows the public involvement requirements identified in the General Permit.

3.0 INSPECTION FREQUENCY

The MS4 Permit requires an annual inspection on all stormwater management facilities. In addition to the annual inspections, the Virginia Stormwater Management Program and regulations require a stormwater facility inspection after any storm event that exceeds the principal spillway, or more specifically, whenever the emergency spillway is engaged. The inspection requirements in the BMP Clearinghouse. Inspection should utilize the forms in Appendix C.

4.0 STORMWATER MANAGEMENT FACILITIES

This section describes the types of BMPs found on the NVCC campus and their general layout and function. If additional BMPs are added to the campuses that differ in type, the manual will require updates for compliance.

There are a number of different types of stormwater facility BMPs on the NVCC campuses. An explanation of each BMP type and key components of the facility types are included in the sections below. Inventory of individual BMPs at the NVCC campus are listed in Appendix B

4.1.1 Bioretention

Bioretention facilities are shallow landscaped depressions that incorporate many of the pollutant removal mechanisms that operate in our natural environment. The primary component of a bioretention practice is the filter bed, which has a mixture of sand, soil, and organic material as the filtering media in the ground with a surface mulch layer. During storms, runoff temporarily ponds 6 to 12 inches above the mulch layer and then rapidly filters through the bed. Normally, the filtered runoff is collected in an underdrain and returned to the storm drain system or receiving channel. The underdrain consists of a perforated pipe in a gravel layer installed along the bottom of the filter bed. Bioretention facilities can also be designed to infiltrate runoff into native soils without an underdrain. This can be done at sites with permeable soils, a low groundwater table, and a low risk of groundwater contamination. The second most critical component of bioretention facilities is the landscaping plan and plantings. The plantings are designed specific to the site and facility and they remove and store pollution. Small residential applications of bioretention are termed rain gardens.

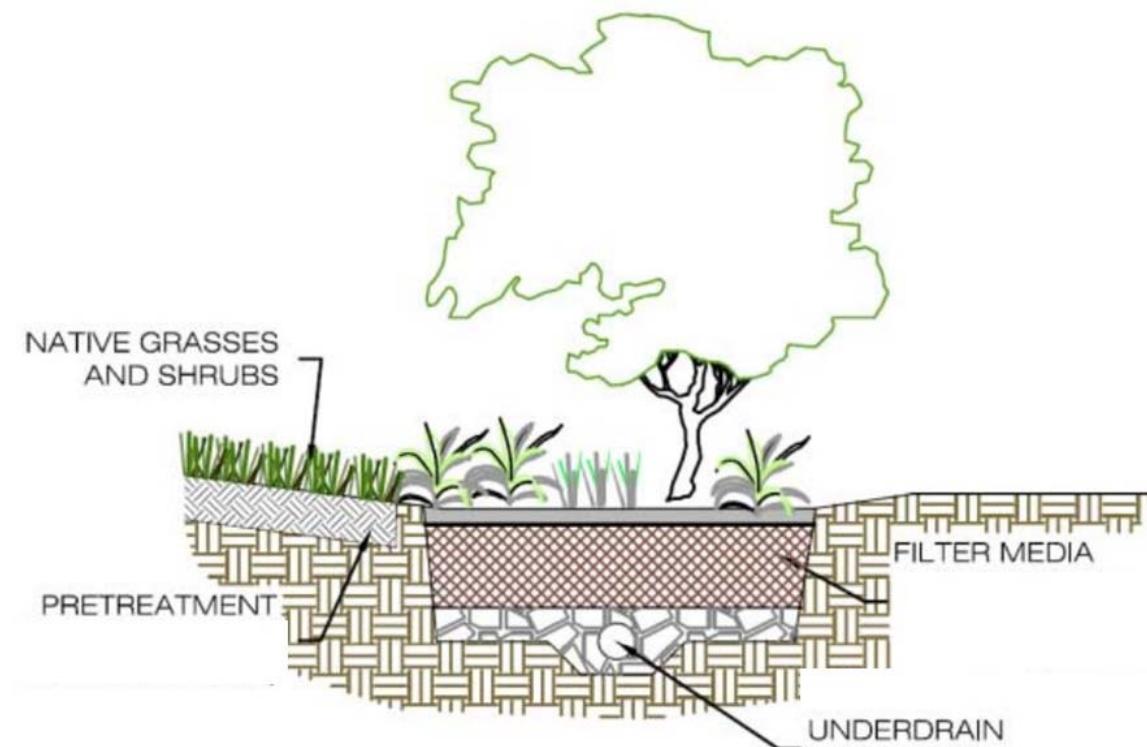


Figure 1: Typical Bioretention Facility Schematic

4.1.2 Dry Detention

These basins have at least one inflow channel, an embankment/dam, a bottom level orifice, sometimes a riser in the basin, a principal spillway structure to route drainage through the dam, and an outlet structure. These basins do not have a normal pool, and remain dry except during and shortly after storm events. Some extended detention facilities may have a wet marsh with plantings in the bottom for additional pollutant removal. On rare occasions the extended detention basin may be designed to have a wet normal pool, in which case plan verify to assure it isn't due to a blockage.

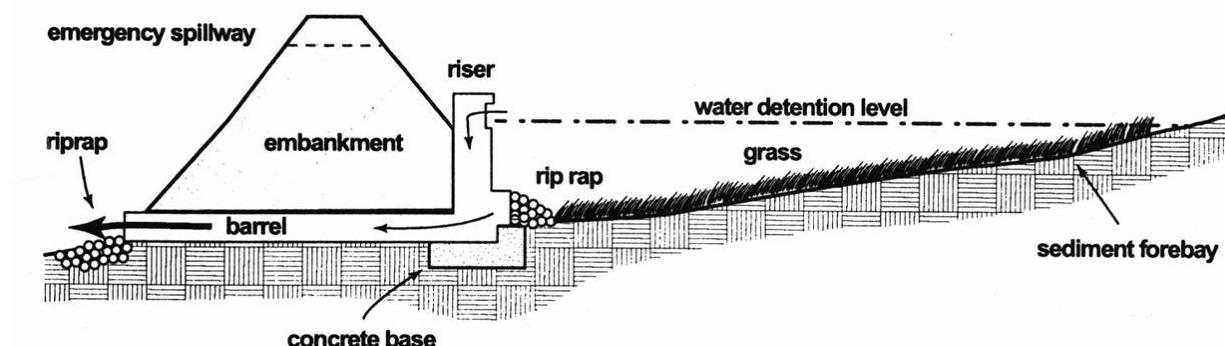


Figure 2: Typical Dry Detention Basin Schematic.

4.1.3 Retention

These basins have at least one inflow channel, an embankment/dam, typically a riser in the basin although not always, a principal spillway structure to route the drainage through the embankment, and an outlet structure. Wet ponds consist of a permanent pool of standing water that promotes pollution removal and reduces flooding. Retention basins can also be dry facilities which would mimic the dry detention schematic. Runoff from each storm enters the pond and raises the normal water level, and the outlet structure releases the drainage at a slower rate over a longer period of time. This "draw down" or holding time allows pollutants to settle out of the stormwater and lessens the impact of the flow volume on the outlet channel.

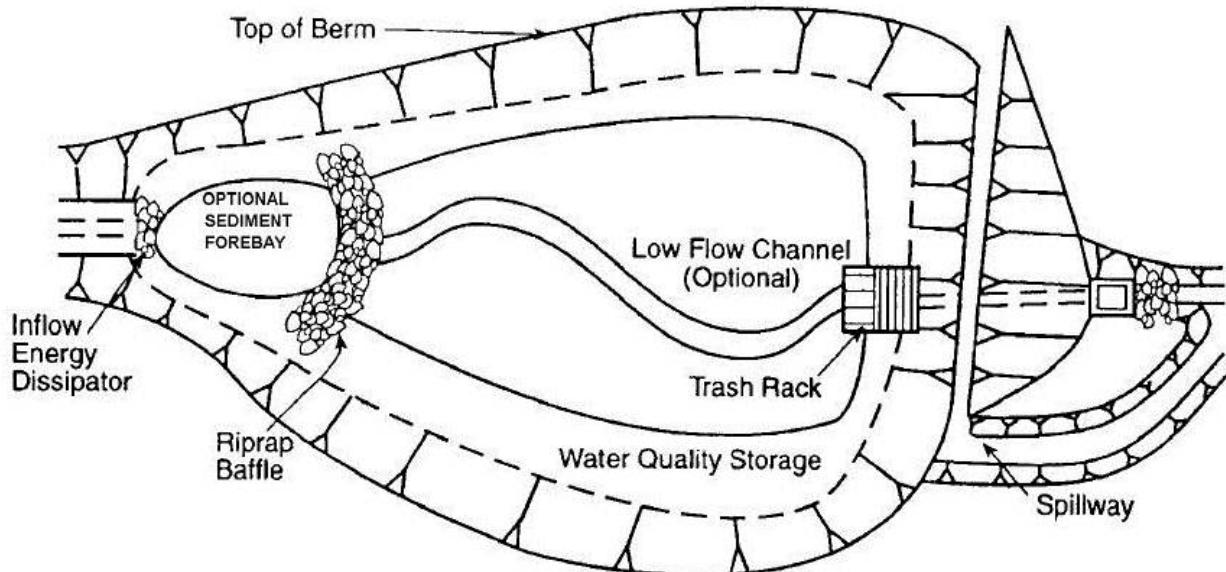


Figure 3: Typical Retention Facility Schematic Top View

4.1.4 Vegetated Roof

Vegetated roofs (or green roofs) are systems designed to capture and temporarily store stormwater runoff in the growing media before it is conveyed into the storm drain system. A portion of the stormwater either evaporates or is taken up by the plants, which helps reduce peak runoff volumes, peak runoff rates, and pollutant loads. The planting media is typically 2 to 6 inches, which is planted with drought tolerant species. Underneath is a root barrier, insulation layer, and a waterproof membrane above the roof deck material. Horizontal channels may also convey water to outlets that then connect to pervious areas near the building or directly to the storm drain.

4.1.5 Permeable Pavement

Permeable pavements are alternative paving surfaces that allow stormwater runoff to filter through voids in the pavement surface into an underlying stone reservoir, where it is temporarily stored and/or infiltrated. A variety of permeable pavement surfaces are available, including pervious concrete, porous asphalt and permeable interlocking concrete pavers. While the specific design may vary, all permeable pavements have a similar structure, consisting of a surface pavement layer, an underlying stone aggregate reservoir layer and a filter layer or fabric installed on the bottom (See Figure 7.1 below). The thickness of the reservoir layer is determined by both a structural and hydrologic design analysis. The reservoir layer serves to retain stormwater and also supports the design traffic loads for the pavement. In low-

infiltration soils, some or all of the filtered runoff is collected in an underdrain and returned to the storm drain system. If infiltration rates in the native soils permit, permeable pavement can be designed without an underdrain, to enable full infiltration of runoff.

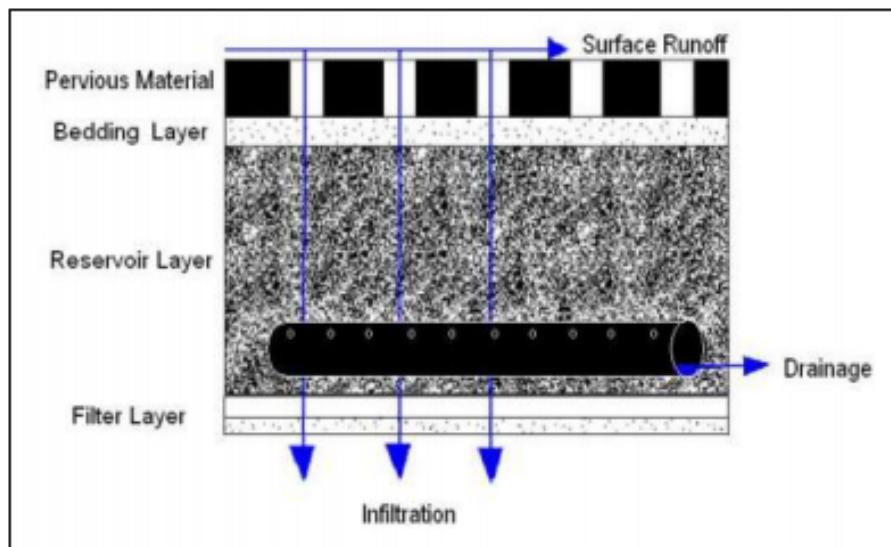


Figure 4: Typical Permeable Pavement section

4.1.6 Rainwater Harvesting

Rainfall can be captured to use for a variety of purposes, including irrigation, vehicle washing, toilet flushing, fire suppression, and even to provide potable water, if the water is appropriately purified. Over time, the cost savings from not having to purchase municipally treated water for these purposes can defray the cost of the harvesting system. Rainwater harvesting system runoff volume reduction rates are user defined, based on cistern/tank size, configuration, and demand drawdown. They can be combined with a variety of down-gradient runoff reduction practices, including swales, infiltration, and bioretention. Rainwater harvesting systems have six main components: roof surface, collection and conveyance system, pre-screening and first flush diverters, storage tank (cistern or rain tank), distribution system, and overflow/ filter path/ secondary runoff reduction/treatment practice.

5.0 INSPECTION FORMS

Inspection forms are an integral part of the post-construction stormwater management program and provide documentation that the inspection took place. The following sections are intended to provide a description of headings and components found in the inspection forms located within Appendix C.

5.1 Stormwater Management Facility Information

This describes general information found on the inspection form in Appendix C.

- “Owner”: The owner of the facility.
- “Facility Name”: This is the name of the facility on the Inventory List (Appendix B) and the site mapping (Appendix A)
- “Property Address”: Address where the facility is located.
- “Date BMP placed in service” The date the BMP became functional and was accepted as complete post construction. This is typically at bond release.
- “Latitude (N)” is the GPS latitude reading of the top of the dam at or above the principal spillway.
- “Longitude (W)” is the GPS longitude reading at the top of the dam or above the principal spillway.
- “Site plan/permit number”: The plan or permit number associated with the stormwater facility construction.
- “As-Built Plans Available”: Are the original As-Built plans available for reference? Indicate yes or no.
- “Inspection Date”: The date the inspection took place.
- “Date of Last Inspection”: The date the last inspection took place.
- “Inspector(s)": The name of the inspector performing the inspection.
- “Contact Information”: Contact information for the inspector. Phone numbers and/or e-mail addresses are appropriate.

5.2 Inspection Criteria

This section of the manual accompanies the Inspection forms. The inspection form is designed so that individual components of the stormwater facility are inspected for specific issues. Each numbered heading is a different component of the facility. The lettered items list the issues specific to that component of the facility to evaluate for. Facilities will not have all components listed.

BMP inspection forms are provided in Appendix C. Proper evaluation and classification of the BMP components play a key role in prioritizing and developing the maintenance plan to preserve proper functionality of the system. The maintenance plan establishes the specific maintenance requirements, maintenance tasks and helps prioritize the facility needs.

Each of the inspection component criteria are rated as either “Yes” they need repairs or “No” they do not need repairs. Develop the maintenance action or follow the recommended maintenance actions described in the “Maintenance action” column.

The following sections define and describe each section on the Inspection Form.

5.2.1 Contributing Drainage Area

The contributing drainage area includes any lands that drain to the BMP facility, both onsite and offsite. These areas should be examined as a potential source of trash, debris, or erosion that affect the functionality of the BMP. Eliminating the source of the issue is essential and works as a preventative measure to ensure long term functionality of the BMP.

5.2.2 Pretreatment

Pretreatment is the initial structure through which stormwater drainage is routed before it enters the main BMP facility. It serves as a preliminary filter to remove silt and sediment to prevent it from impacting the main system. As a result, the pretreatment structures require clean out more often than the facility itself. If there are significant amounts of sediment or growth in the pretreatment structure, it cannot store and filter the volume of flow it was designed for and therefore cannot fully function.

5.2.3 Inlets

Inlets route flow into the BMP facility for treatment from the contributing drainage area. Some issues in the inflow system may indicate upstream issues that are being transported to the facility. Inlets should be stable to properly function and not create additional impacts to the BMP facility, such as debris or sediment that impacts access to the wetland plant system.

5.2.4 Sediment Forebay

A sediment forebay is a pretreatment structure that traps debris, trash, sediment and other pollutants from entering the BMP. Sediment must be cleaned out once the level in the forebay reaches 50% of the capacity. This is usually indicated on a stake placed in the forebay during construction to measure that level.

5.2.5 Vegetation

A main design component for several types of BMPs is the planting plan designed by a professional. The facility plantings should match the design plans for the number and species of plants present. Having more plants than what is shown on the plans is acceptable as long as it is not an invasive species and/or the overgrowth is not impacting the storage volume and the facility’s ability to drain. Checking the general planting location in the facility is also helpful. For example if there is a section of plants adjacent to an area that sheet flows in off the road shoulders that are dying it is indicative of the runoff having some type of plant stressor or contamination in it. De-icing salts on the roads is an example of this. Vegetation should be replaced in accordance with the approved plans, or permission for an equivalent replacement species granted.

5.2.6 Emergency Spillway

The emergency spillway is a channel that conveys stormwater during large storm events from the facility to an outlet, usually the same one as the main outflow. It prevents the facility from overtopping during the large storm events. Not all facilities have an emergency spillway. Spillways can be lined with various materials including grass with or without erosion control matting, rip-rap, or concrete based on the flow rate. The spillway is usually visible as a low spot a minimum of 1' below the top of embankment off to one side. Consult the design plans for additional details.

5.2.7 Outfall

The outfall channel is the receiving channel for the discharge from the stormwater facility. At the point of discharge there is usually a section of riprap, termed outlet protection, to slow the outflow and dissipate energy to prevent erosion in the channel. The purpose of many stormwater facilities is to protect the downstream channels, and thus a thorough evaluation of the outfall should be conducted.

5.2.8 Outlet

The outlet section refers to the structural end of the BMP system where drainage exits the BMP and enters the receiving channel. It is typically a pipe through the embankment. The outlet structure engages on all storm events, unlike the emergency spillway that is only used during very large events.

5.2.9 Principle Spillway

The principle spillway is the structure routing flow out of the facility to the receiving channel through the embankment, if present. It can be in the form of a pipe or an open channel and is typically a pipe through the embankment. The principle spillway is used in most storm events, unlike the emergency spillway that is only used during very large events. Because this is typically the only conduit through the dam, the functionality and structural integrity of the principle spillway is critical.

5.2.10 Riser

The riser is a vertical structure that connects with the principal spillway pipe to route flows out of the facility. The riser usually has a small opening, or orifice, in the front of it that controls the amount of flow through the system. Thus the functionality of the riser can have a large impact on the water level in the basin, the outlet system as a whole, and meeting the designed pollutant removal. Damage or deterioration can take the form of rust, cracking, exposed rebar, or additional holes in the structure.

5.2.11 Berm/Embankment

The embankment or berm, also termed a dam, is the fill section that blocks the drainage and holds the water in the facility. The face of the dam is the front side that interacts with the water level, the top or crown is the highest flat surface, and the downstream side is the back of the dam from the top down to where the fill section meets the natural grade structure (called the “toe” of the dam), typically just below the outlet. Basins outlet on the downstream side, which can be a more problematic area due to the effects of water pressure and saturation on the face and through the dam. Please note a dug basin will not have all of these components since it is excavated into the existing earth and not created by fill placement. Additionally, roadways are not considered embankments because they typically have culvert pipes through them that back up water to function properly during storm events, but are not designed as a stormwater facility.

Issues with the embankment can be critical to the function of the facility. Note where the issue is in relation to the principal spillway through the dam, since that structure has a higher impact on the facility if damaged.

5.2.12 Low Flow Orifice

The low flow orifice is the smaller outflow hole, usually in the riser, that meters out the flow and decreases the post development flows to the receiving channel. The low flow orifice tends to clog because of its size and will typically have a trash rack grate on the front of it. The outflow pipe itself may be small enough to not require a low flow orifice.

5.2.13 Pond Drain System

Some facilities have a drainage system to fully raise and lower the water level in the facility. This is usually in the form of a gate valve which is a steel plate that can be raised and lowered to cut off or open up various outlets of the facility. Be sure to exercise them once a year minimum to keep them functional.

5.2.14 Miscellaneous

This section captures any other pertinent features or issues of the facility. It evaluates the facility footprint area and general BMP issues such as access. Note if any of the criteria need repairs and be sure to put the location of the issue on the report.

6.0 FACILITY MAINTENANCE

The effectiveness of post-construction stormwater control BMPs depends upon regular inspections and maintenance of all aspects of the facility. There are typically two types of BMP maintenance referred to as routine maintenance and corrective maintenance. Corrective maintenance consists of repairs performed to correct a deficient part of the BMP facility as identified in the inspection. Maintenance action returns the BMP component to the original design conditions for proper function. These activities are further described below.

6.1 Routine Maintenance

Routine maintenance consists of items that are essential to the on-going care and upkeep of a BMP facility as a preventative measure. It should be performed regularly to ensure proper function of the facility. Additionally, it helps prevent potential nuisances (odors, mosquitoes, weeds, etc.), reduces the need for corrective maintenance, and reduces the chance of polluting stormwater runoff by identifying and repairing problems before they further deteriorate. The failure of structural stormwater BMPs can lead to downstream flooding, which can cause property damage, injury, and even death. This also leads to very costly repairs.

Examples of routine maintenance in accordance with the Virginia BMP Clearinghouse Specifications include:

- Remove any accumulated sediment from the forebays and micropools.
- Replace any plantings or vegetation called for in the approved plans that has died or is diseased.
- Repair the stormwater structures for erosion or undercutting as needed.
- Repair any erosion in the facility, including sloughing, animal burrows and slopes.
- Repair any deterioration at the outfall of the facility, including the riprap outlet protection.
- Remove blockages of all trash racks, inlets and outlets.
- Maintain adequate access to the facility and remove woody vegetation as needed.
- Exercise valves to prevent them from locking up where applicable.
- Remove all trash, debris and floatables periodically from the facility.

6.2 Corrective Maintenance

The purpose of this section is to list any maintenance items that should be addressed for the facility to properly function in accordance with the plans. These items require more intensive repair efforts and should be addressed as a higher priority than routine maintenance. If there are structural deficiencies, or issues that raise the water level in the facility beyond the design requirements, corrective action is required.

Examples of Corrective Maintenance include:

- Repair any deterioration or issues with the principal spillway and riser such as evidence of spalling, joint failure, leakage, corrosion, etc.
- Extensive sediment removal is required when inspections indicate that 50% of the forebay sediment storage capacity has been filled.
- Control or remove invasive species when their coverage exceeds 15% of the wetland cell as soon as possible. Take care to preserve the designed plantings and vegetation.

- All woody vegetation should be removed from the embankment, if present, to prevent structural damage. Additionally, removal of growth should be considered more frequently if there are impacts to the storage volume (i.e. water levels rise because the vegetation is taking up the water storage space).

Further information on maintenance recommendations for various stormwater BMPs can be found at the Virginia BMP Clearinghouse at:

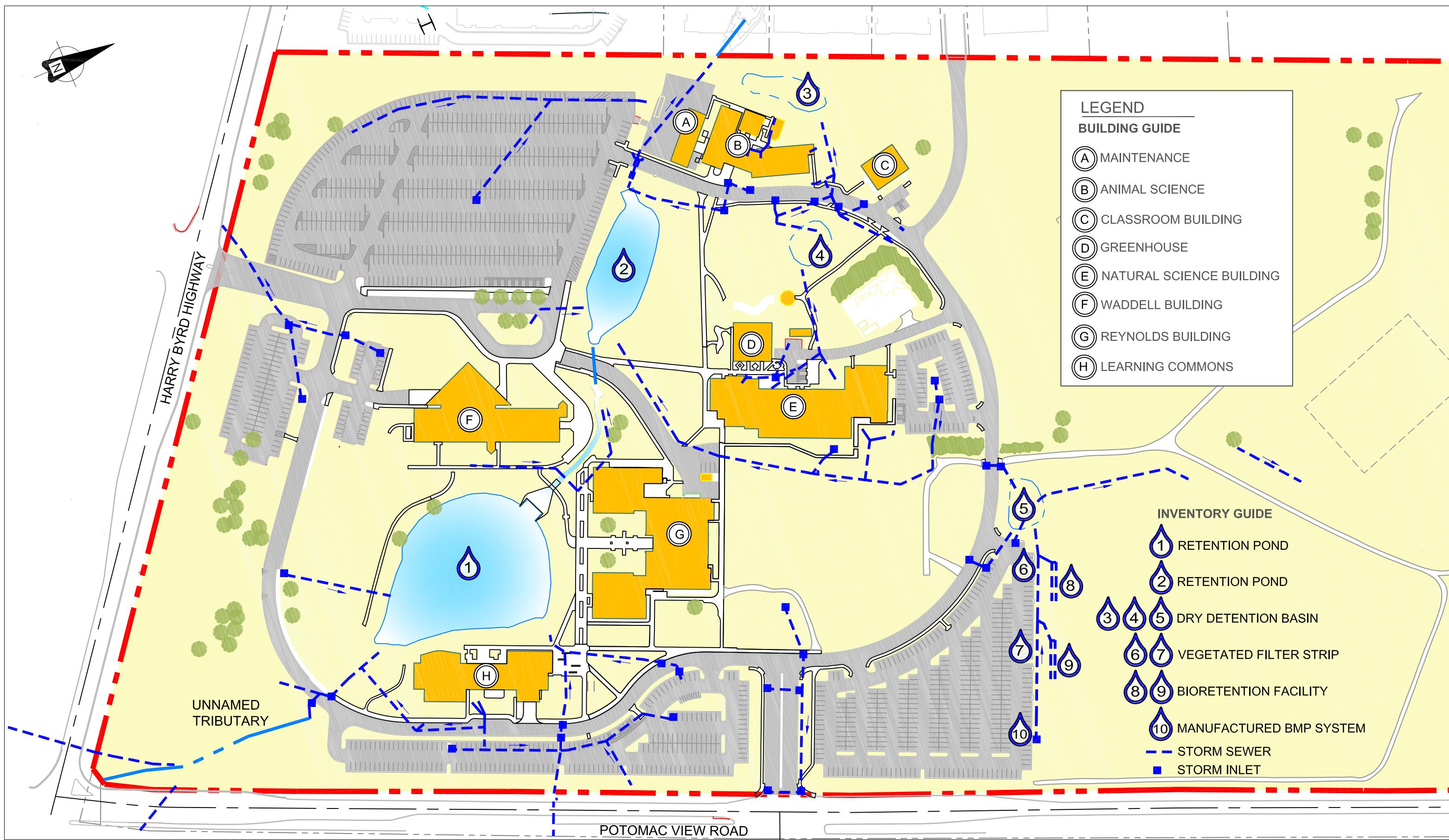
<http://www.vwrrc.vt.edu/swc/NonProprietaryBMPs.html>

Appendix A: NVCC BMP Mapping



NORTHERN VIRGINIA COMMUNITY COLLEGE
ALEXANDRIA CAMPUS
POST-CONSTRUCTION STORMWATER INVENTORY MAP





Appendix B: NVCC Post-Construction Stormwater Facility Inventory

Northern Virginia Community College Stormwater Facility Inventory

Alexandria Campus

Facility #	Latitude	Longitude	Type or Facility	Total Acres Treated	Pervious Area	Impervious Area	Date Facility Brought Online	HUC	Receiving Water Impaired (2010 303(d)/305(b))	Publicly or Privately Owned?	Does a Maintenance Agreement Exist?	Date of last Inspection	# Inspections Completed During Reporting Year
NVCC-SWM-AL-1	38°50'24.2"N	77°06'52.3"W	Bioretention Basin	0.6	0.3	0.3	2010	PL-25	N/A	Public	N/A	TBD	TBD
NVCC-SWM-AL-2	38°50'22.1"N	77°06'39.0"W	Dry Detention Basin	3.3	2.3	1	2009	PL-25	N/A	Public	N/A	TBD	TBD

Annandale Campus

Facility #	Latitude	Longitude	Type or Facility	Total Acres Treated	Pervious Area	Impervious Area	Date Facility Brought Online	HUC	Receiving Water Impaired (2010 303(d)/305(b))	Publicly or Privately Owned?	Does a Maintenance Agreement Exist?	Date of last Inspection	# Inspections Completed During Reporting Year
NVCC-SWM-AN-1	38°50'07.7"N	77°14'09.5"W	Wet Pond	18.5	12.9	5.6	2009	PL-30	N/A	Public	N/A	TBD	TBD
NVCC-SWM-AN-2	38°49'58.8"N	77°14'05.4"W	Infiltration Trench	0.3	0	0.3	2009	PL-30	N/A	Public	N/A	TBD	TBD
NVCC-SWM-AN-3	38°49'57.1"N	77°14'06.1"W	Bioretention Facility	0.3	0	0.3	2009	PL-30	N/A	Public	N/A	TBD	TBD
NVCC-SWM-AN-4	38°50'07.0"N	77°14'01.9"W	Dry Detention Basin	22.8	15.9	6.9	2009	PL-30	N/A	Public	N/A	TBD	TBD
NVCC-SWM-AN-5	38°49'58.5"N	77°14'18.1"W	Wet Pond	1.6	0.4	1.2	2010	PL-30	N/A	Public	N/A	TBD	TBD
NVCC-SWM-AN-6	38°49'57.5"N	77°14'13.0"W	Dry Detention Basin	6.5	3.2	3.3	2010	PL-30	N/A	Public	N/A	TBD	TBD
NVCC-SWM-AN-7	38°49'57.0"N	77°14'09.5"W	Dry Detention Basin	1.1	0.7	0.4	2010	PL-30	N/A	Public	N/A	TBD	TBD

Loudoun Campus

Facility #	Latitude	Longitude	Type or Facility	Total Acres Treated	Pervious Area	Impervious Area	Date Facility Brought Online	HUC	Receiving Water Impaired (2010 303(d)/305(b))	Publicly or Privately Owned	Does a Maintenance Agreement Exist?	Date of last Inspection	# Inspections Completed During Reporting Year
NVCC-SWM-LO-1	39°01'39.8"N	77°23'31.7"W	Wet Pond	14	10.7	3.3	2009	PL-20	N/A	Public	N/A	TBD	TBD
NVCC-SWM-LO-2	39°01'44.3"N	77°23'37.5"W	Wet Pond	27.1	18.46	8.64	2009	PL-20	N/A	Public	N/A	TBD	TBD
NVCC-SWM-LO-3	39°01'47.9"N	77°23'40.3"W	Dry Detention Basin	3.5	2	1.5	2009	PL-20	N/A	Public	N/A	TBD	TBD
NVCC-SWM-LO-4	39°01'47.6"N	77°23'36.8"W	Dry Detention Basin	1.9	1	0.9	2010	PL-20	N/A	Public	N/A	TBD	TBD
NVCC-SWM-LO-5	39°01'49.9"N	77°23'29.1"W	Dry Detention Basin	4.7	1.5	3.2	2010	PL-20	N/A	Public	N/A	TBD	TBD
NVCC-SWM-LO-6	39°01'49.1"N	77°23'25.7"W	Vegetated Filter Strip	Bioretention Facility Pretreatment									
NVCC-SWM-LO-7	39°01'49.6"N	77°23'27.2"W	Vegetated Filter Strip										
NVCC-SWM-LO-8	39°01'49.8"N	77°23'27.3"W	Bioretention Facility	0.7	0.2	0.5	2010	PL-20	N/A	Public	N/A	TBD	TBD
NVCC-SWM-LO-9	39°01'49.4"N	77°23'25.5"W	Bioretention Facility	1.3	0.2	1.1	2010	PL-20	N/A	Public	N/A	TBD	TBD
NVCC-SWM-LO-10	39°01'48.5"N	77°23'23.7"W	Manufactured "Filterra" BMP	0.5	0	0.5	2010	PL-20	N/A	Public	N/A	TBD	TBD

Woodbridge Campus

Facility #	Latitude	Longitude	Type or Facility	Total Acres Treated	Pervious Area	Impervious Area	Date Facility Brought Online	HUC	Receiving Water Impaired (2010 303(d)/305(b))	Publicly or Privately Owned	Does a Maintenance Agreement Exist?	Date of last Inspection	# Inspections Completed During Reporting Year
NVCC-SWM-WO-1	38°37'06.3"N	77°17'41.4"W	Wet Pond	34.7	23.8	10.9	2010	PL-49	N/A	Public	N/A	TBD	TBD
NVCC-SWM-WO-2	38°37'03.4"N	77°17'38.3"W	Dry Detention Basin	0.1	0.1	0	2010	PL-49	N/A	Public	N/A	TBD	TBD
NVCC-SWM-WO-3	38°36'57.4"N	77°17'36.5"W	Rainwater Harvesting	3.3	1.4	1.9	2012	PL-49	N/A	Public	N/A	TBD	TBD
NVCC-SWM-WO-4	38°37'02.5"N	77°17'30.7"W	Rainwater Harvesting	2.2	1.4	0.8	2012	PL-49	N/A	Public	N/A	TBD	TBD
NVCC-SWM-WO-5	38°37'04.0"N	77°17'36.9"W	Vegetated Roof	0.4	0	0.4	2012	PL-49	N/A	Public	N/A	TBD	TBD
NVCC-SWM-WO-6	38°37'04.6"N	77°17'35.3"W	Vegetated Roof	0.3	0	0.3	2012	PL-49	N/A	Public	N/A	TBD	TBD
NVCC-SWM-WO-7	38°37'05.6"N	77°17'37.7"W	Rainwater Harvesting	1	0	1	2012	PL-49	N/A	Public	N/A	TBD	TBD
NVCC-SWM-WO-8	38°37'04.5"N	77°17'38.1"W	Permeable Pavement	0.3	0	0.3	2012	PL-49	N/A	Public	N/A	TBD	TBD

Appendix C: BMP Inspection Forms

Virginia Community College System
Annual BMP Operation & Maintenance Inspection for
Detention, Retention and Extended Detention Basins and Wet Ponds

Owner Name:	Facility Name (See Mapping):		
Property Address:			
Street:			
City:			
Zip Code:			
Date BMP placed in service:	Latitude:	Longitude:	
Site plan/permit number:	As-built plans available:	<input type="checkbox"/> Y	<input type="checkbox"/> N
Date of Inspection:	Date of Last Inspection:		
Inspector:	Contact Information:		

BMP Element	Problem	Yes	No	N/A	Corrective Action
Contributing Drainage Area	Excessive trash/debris				Remove trash/debris and properly dispose.
	Bare exposed soil				Stabilize with seed and mulch. E&S measures may be warranted until stabilized.
	Evidence of erosion				Backfill area, seed, mulch and consider matting. E&S measures may be warranted until stabilized.
	Excessive landscape waste/yard clippings				Remove landscape waste and yard clippings to prevent clogging and properly dispose of them.
Pretreatment / Forebay / Inflow	Excessive trash/debris/sediment or other blockage				Remove trash/debris/sediment or blockages and properly dispose of.
	Dead vegetation, exposed soil				Replace vegetation and stabilize according to plans. E&S measures may be warranted until stabilized.
	Evidence of erosion, undercutting, or bare soils				Backfill area, seed, mulch and consider matting, E&S measures may be warranted until stabilized.
	Structural deterioration of inlets, outfalls or pretreatment overflow weirs into the facility				Repair and restabilize area. Consult plans for approved configuration or an engineer. E&S measures may be warranted until stabilized.
	Animal burrows				Fill in immediately and stabilize.
Aquatic Bench / Vegetation	Plantings inconsistent with approved plans.				Consult approved plans and/or management to ensure no approved plant substitutions were used. Remove unapproved plants and replace any required plantings in kind.
	Dead vegetation/exposed soil				Replace vegetation and stabilize according to plans. E&S measures may be warranted until stabilized.
	Invasive plants, such as cattails and phragmites, exceeds 15% of the planted area.				Invasive plants should be removed immediately. Vegetation may require periodic harvesting for proper long term management.

Berm/ Embank- ment	Overgrown, including woody growth 5' beyond the outfall pipe and/or embankment.			Removal of woody species near or on the embankment is critical for proper function and long term stability. Remove all woody growth including stumps. Consult an engineer for backfill specifications. Mow thick growth.
	There is sparse vegetative cover and erosion channels are present.			Backfill area with structural fill and consult engineer for proper specifications. Stabilize with seed and mulch, consider matting. E&S measures may be warranted until stabilized.
	Cracking, bulging, sloughing and seepage			Consult an engineer immediately to prevent failure.
	Evidence of animal burrows.			Fill in immediately and stabilize.
Riser	Structural condition of the riser is deteriorating.			Consult an engineer to recommend a repair and review the approved plans.
	Adjustable control valve inaccessible and inoperable (if present).			Repair valve to be operational.
	Pieces of the riser are broken or missing.			Repair immediately in accordance with the approved plans. Consult an engineer as needed.
	Riser or low flow orifice is blocked.			Remove blockage and properly dispose of.
	Riser provides inadequate conveyance out of facility.			Repair to properly convey drainage to the outfall per the approved plan. Consult an engineer as needed.
	Evidence of erosion or undermining at/around riser.			Repair erosion. Consult engineer for structural repairs as needed.
	Structural deterioration			Consult engineer for proper repair procedures.
Outlet / Outfall	Exposed rebar, joint failure, loss of joint material, misalignment, leaking or corrosion			Repair concrete to cover rebar. Consult engineer for all other structural repairs.
	Excessive trash/debris/sediment or blockages.			Remove trash/debris/sediment/blockages and properly dispose of.
	Evidence of erosion and bare soil.			Backfill area, seed, mulch and consider matting, E&S measures may be warranted until stabilized.
	Valves, manholes or locks cannot be opened or operated (if present).			Repair/replace any broken fixtures.
	Erosion of outfall channel or riprap deterioration.			Repair and/or supplement riprap outlet protection in accordance with the approved plans.
	Outlets provide inadequate conveyance out of facility.			Repair to properly convey drainage to the outfall per the approved plan. Consult an engineer as needed.
Overall	Access to the facility is in need of repair.			Restore access for maintenance equipment per the approved plans.
	Encroachment on facility or easement by buildings or other structures.			Contact Operations and Maintenance or Plant Services Division
	Evidence of oil/chemical accumulation, odor, algae, color or pollution.			Report to management and consult IDDE manual.
	Fences and/or safety signage is inadequate.			Repair fences and signage for public safety.
	Trash in the pool			Remove immediately and observe safety procedures.
	Additional notes:			

Virginia Community College System
 Annual BMP Operation & Maintenance Inspection for **Bioretention**

Owner Name:	Facility Name (See Mapping):		
Property Address:			
Street:			
City:			
Zip Code:			
Date BMP placed in service:	Latitude:	Longitude:	
Site plan/permit number:	As-built plans available:	Y	N
Date of Inspection:	Date of Last Inspection:		
Inspector:	Contact Information:		

BMP Element	Problem	Yes	No	N/A	Corrective Action
Contributing Drainage Area	Excessive trash/debris				Remove trash/debris and properly dispose of.
	Bare exposed soil				Stabilize with seed and mulch. E&S measures may be warranted until the area is stabilized.
	Evidence of erosion				Backfill area, seed, mulch and consider matting. E&S measures may be warranted until stabilization.
	Excessive landscape waste/yard clippings				Remove landscape waste and yard clippings to prevent clogging and properly dispose of them.
Pretreatment (if applicable) & Inlets	Excessive trash/debris/sediment				Remove trash/debris/sediment and properly dispose of.
	Evidence of clogging				Rake material to determine level of clogging, removed clogged material and replace with clean material per the plan specifications.
	Dead vegetation, exposed soil				Replace vegetation and stabilize with seed and mulch according to plans. E&S measures may be warranted until area is stabilized.
	Evidence of erosion				Backfill area, seed, mulch and consider matting. E&S Measures may be warranted until stabilized.
	Evidence of ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation				Determine source of issue and remove/repair it. Consult management and the IDDE manual as needed.
	Inlets provide inadequate conveyance into facility				Repair inlets to drain to facility per plans.
	Presence of invasive species/weeds				Remove invasive species/weeds

Underdrain/pea gravel filter	Perforated pipe is not delivering conveyances as designed			Check if pipe is clogged with debris or woody root punctures. Manually clear out or replace pipe immediately.
	Evidence of standing water. Does not dewater between storms. Water ponds on the surface of basin for more than 48 hours after an event			This is an indication that underlying soil interface is clogged. This should be promptly investigated and addressed.
	Evidence of blockage			Determine source of blockage and promptly remove and dispose of.
	Litter is present within the practice			Remove immediately. Maintain contributing areas free of litter.
Outlet/ overflow spillway	Filter media is too low, compacted, or inconsistent with design specifications.			Consult an engineer or approved plans for the proper media mix specifications and placement guidance for repairs.
	Mulch is older than 3 years or in poor condition			Mulch shall be removed and replaced every 2-3 years.

Filter media	Chemicals, fertilizer and/or oil are present			No dumping of yard wastes into practice. Remove oil/grease from practice immediately and consult the IDDE Manual.
	Sediments are greater than 20% of design depth			Check plant health, manually remove sediment immediately without damaging plants.
	Exposed/bare soil			Stabilize with seed and mulch. E&S measures may be warranted until stabilization.
	Filter bed is blocked and/or filled inappropriately			Check blockage level by raking the layer and check the deposit depth. Consult the approved plan specifications and/or an engineer.
	Outlets provide inadequate conveyance out of facility			Repair conveyance. Consult engineering as needed.
	Excessive trash/debris/sediment accumulation at inlet			Remove trash/debris/sediment and properly dispose of.
	Evidence of erosion at/around inlet			Repair erosion and stabilize - consider matting.
	Maintenance access to facility in need of repair			Restore access for inspections and construction maintenance equipment.
Outlet	Access road needs maintenance to convey construction maintenance equipment.			Restore access for inspections and construction maintenance equipment.
	Structural components in need of repair			Consult Engineer and approved design plans.
	Hydraulic control components in need of repair			Consult Engineer and approved design plans.
Overall	Excessive trash/debris/sediment			Remove trash/debris/sediment and properly dispose of.
	Evidence of erosion			Backfill area, seed and mulch -consider matting, E&S Measures may be warranted until stabilized.
	Evidence of oil/chemical accumulation, odor, algae or color.			Report to management and consult IDDE manual.
	Encroachment on facility by buildings or other structures			Contact Operations and Maintenance or Plant Services Division
	Additional Notes:			

Virginia Community College System
 Annual BMP Operation & Maintenance Inspection for Rainwater Harvesting

Owner Name:		Facility Name (See Mapping):			
Property Address:					
Street:					
City:					
Zip Code:					
Date BMP placed in service:		Latitude:		Longitude:	
Site plan/permit number:		As-built plans available:		Y N	
Date of Inspection:		Date of Last Inspection:			
Inspector:		Contact Information:			
BMP Element	Problem	Yes	No	N/A	Corrective Action
Pretreatment	Gutters, downspouts and inflow devices blocked?				Remove all blockages from inflow structures.
	Screens, first flush diverters or vents blocked?				Removal all debris and blockages.
	Vegetation overhanging structures and creating debris/blockages?				Trim all overhanging vegetation to limit the amount of vegetative debris and blockages.
Structural Components	Sediment build up in tank?				Remove sediment and locate source as preventative measure. See above section.
	Structural integrity of the tank, pumps or electrical systems has deteriorated?				Repair in accordance with the approved plans. Consult an engineer as needed.
	Backflow preventer not properly functioning?				Repair in accordance with the approved plans. Consult an engineer as needed.
Outlets	Overflow pipes and paths are not properly functioning?				Restore overflow features per the designed plans. Consult the approved plans and an engineer as needed.
	Outflow spigot blocked?				Remove blockage.
Overall	Additional notes:				

Virginia Community College System
 Annual BMP Operation & Maintenance Inspection for **Vegetated Roof**

Owner Name:	Facility Name (See Mapping):		
Property Address:			
Street:			
City:			
Zip Code:			
Date BMP placed in service:	Latitude:	Longitude:	
Site plan/permit number:	As-built plans available: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
Date of Inspection:	Date of Last Inspection:		
Inspector:	Contact Information:		

BMP Element	Problem	Yes	No	N/A	Corrective Action
Vegetation	Plant cover is less than 90%.				Replace dead plantings per the approved plans. This is essential during the first growing season for long term establishment.
	Debris, vegetative and non, is present.				Remove debris and properly dispose of, including clippings.
	Invasive and nuisance plant species are present.				Completely remove invasive plant species. Weeding shall be manual without the use of herbicides or pesticides.
	Plant bed is dry.				Hand water or use sprinkler system. Follow manufacturers' instructions for O&M. Shade or a water cloth maybe helpful in drought conditions.
Structural Components	Waterproof membrane is leaking or cracked.				Make necessary repairs immediately in accordance with approved plans. Consult engineer as needed.
	Root barrier is perforated.				Repair perforated area.
Drainage Layer/inlet pipes	Drain inlet pipe is in poor condition.				Repair as needed.
	Evidence of ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation.				Repair cause of standing water in accordance with approved plans. Changes from the approved plans must be reviewed by an engineer. Consult management and the IDDE manual as needed.
	Substrate/medium is not adequate to support healthy plant life.				Consult an engineer or approved plans for the proper media mix specifications and placement guidance for repairs.
	Inflow structures do not provide adequate conveyance to the treatment facility.				Repair structures to drain to facility per plans.
Soil substrate/ growing medium	Deterioration of facility's treatment area or condition.				Repair according to the approved plans, including the dimensions and specified conditions.
	Sediment accumulation.				Remove sediment and properly dispose of.

Overall	Threat of a spill from mechanical equipment or other roof storage items is imminent.				Spill prevention measures for roof systems shall be readily available and used. Correct releases of pollutants immediately in accordance with the IDDE manual.
	Evidence of erosion from wind or water.				Repair erosion and stabilize with additional soil substrate/growth medium and cover with approved plantings.
	Access to the Eco roof is unsafe or inefficient.				Restore access. Walkways shall be clear of obstructions and maintained to design standards.
	Evidence of damage or vandalism is present.				Aesthetics of the Eco roof shall be maintained as an asset to the property owner and community.
	Additional notes:				

Virginia Community College System
 Annual BMP Operation & Maintenance Inspection for **Permeable Pavement**

Owner Name:	Facility Name (See Mapping):		
Property Address:			
Street:			
City:			
Zip Code:			
Date BMP placed in service:	Latitude:	Longitude:	
Site plan/permit number:	As-built plans available:	Y	N
Date of Inspection:	Date of Last Inspection:		
Inspector:	Contact Information:		

BMP Element	Problem	Yes	No	N/A	Corrective Action
Contributing Drainage Area	Excessive trash/debris				Remove trash/debris and properly dispose of
	Bare exposed soil				Stabilize soil with seed and mulch.
	Evidence of erosion				Remove trash/debris and properly dispose of
	Excessive landscape waste/yard clippings				Remove landscape waste and yard clippings to prevent clogging
Pretreatment	Maintenance access to pretreatment facility in need of repair				Restore access for inspections and construction equipment for repairs.
	Excessive trash/debris/sediment				Remove trash/debris/sediment and properly dispose of.
	Dead vegetation, exposed soil				Stabilize according to plans. E&S measures may be warranted until area is stabilized.
	Evidence of erosion				Backfill area, seed and mulch -consider matting, E&S Measures may be warranted until stabilized.
Inlets	Inlets provide inadequate conveyance into facility				Repair inlets to drain to facility.
	Excessive trash/debris/sediment accumulation at inlet				Remove trash/debris and properly dispose of
	Evidence of erosion at/around inlet				Backfill area, seed and mulch -consider matting, E&S Measures may be warranted until stabilized.
Surface	Pavement is not draining precipitation/is clogged. Ponding water is visible on the surface 48 hours after a rain event. Significant amounts of sediment have accumulated between the pavers.				The surface shall be kept clean and free of leaves, debris and sediment. (Regular sweeping shall be implemented for porous asphalt or concrete systems)
Overflows or Emergency Spillways	Perforated pipe is not delivering conveyances as designed				Remove obstructions; identify sources of erosion and restabilize spillway.

Vegetation (where applicable)	Vegetation is dying or dead			Maintain vegetation so that it is healthy and dense enough to provide filtering while protecting underlying soils from erosion. Remove all dead and decaying plants and replace immediately.
	Grass has grown to more than 4 inches			Grass shall be mowed to less than four inches and grass clippings shall be bagged and removed.
	Plant composition consistent with approved plans.			No dumping of yard wastes into practice. Remove oil/grease from practice immediately.
	Presence of invasive species/weeds.			Check plant health, manually remove sediment immediately without damaging plants.
Vegetation (where applicable)	Dead vegetation/exposed soil			Backfill with soil, reseed, and protect area until vegetation is reestablished
	Trees and shrubs are within 5 feet of pavement surface			Check that roots from trees have not penetrated the pavement, and leaves from deciduous trees and shrubs have not clogged the practice. Vegetation and large shrubs/trees that limit access or interfere with porous pavement operation shall be pruned.
	Filter bed is blocked and/or filled inappropriately			Redistribute soil substrate and remove sediments within two weeks.
Source Control	Stormwater has more contaminants than the practice was designed to treat.			Measures such as raking and removing leaves, street sweeping, vacuum sweeping, limited and controlled application of pesticides and fertilizers, and other good housekeeping practices that prevent pollutants from mixing with stormwater should be taken.
Outlet	Outlets provide inadequate conveyance out of facility			Repair outlets for proper drainage.
	Excessive trash/debris/sediment accumulation at inlet			Remove trash/debris and properly dispose of
	Evidence of erosion at/around inlet			Backfill area, seed and mulch -consider matting, E&S Measures may be warranted until stabilized.
Spill Prevention	Hazardous/toxic substances are located/used near or on pavement.			A spill prevention plan shall be implemented at all non-residential sites and in areas where there is likelihood of spills from hazardous materials. Virtually all sites present potential danger from spills. All properties contain a wide variety of toxic materials including gasoline for lawn mowers, antifreeze for cars, solvents, pesticides, and cleaning aids than can adversely affect storm water if spilled. Releases of pollutants shall be corrected as soon as identified.
Access	Access is unsafe or impossible to inspect pavement			Egress and ingress routes shall be renovated to design standards. Roadways may need adjustments to accommodate size and weight of vehicles. Obstacles preventing maintenance personnel and/or equipment access to the porous pavement shall be removed. Gravel or ground cover shall be added if erosion occurs due to vehicular or pedestrian traffic.

Insects & Rodents	Insects and rodents are found within the practice.				Pest control measures shall be taken when insects/rodents are found to be present. Standing water that creates an environment for development of insect larvae shall be eliminated. If sprays are considered, than a mosquito larvicide, such as Bacillus thurengensis or Altoside formulations can be applied only if absolutely necessary. Holes in the ground located in and around the pervious pavement shall be filled and compacted.
Overall	Maintenance access to facility in need of repair				Restore access for inspections and construction equipment for repairs.
	Structural components in need of repair				Consult Engineer and approved design plans.
	Hydraulic control components in need of repair				Consult Engineer and approved design plans.
	Excessive trash/debris/sediment				Remove trash/debris/sediment and properly dispose of.
	Evidences of erosion				Backfill area, seed and mulch -consider matting, E&S Measures may be warranted until stabilized.
	Evidence of oil/chemical accumulation				Report to management and consult IDDE manual.
	Evidence of standing water; ponding, noticeable odors, water stains, presence of algae or floating aquatic vegetation				Report to management and consult IDDE manual.
	Encroachment on facility or easement by buildings or other structures				Contact Operations and Maintenance Division
	Additional Notes:				

Appendix D: BMP New Facility Form

Piedmont Virginia Community College
New BMP Inventory Form

Owner Name:		
Property Address: Street: City: Zip Code:		
Facility Type:		
Date BMP placed in service:	Latitude:	Longitude:
Site plan/permit number:	As-built plans available:	<input type="checkbox"/> Y <input type="checkbox"/> N
Date of Last Inspection:	Inspector:	
Inspector Contact Information:		

Appendix C

Illicit discharge Detection and Elimination Program Manual



Illicit Discharge Detection and Elimination PROGRAM MANUAL

Programmatic Overview of NVCC's IDDE Program and Process

NVCC - Alexandria Campus
5000 Dawes Avenue
Alexandria, VA 22311

NVCC - Annandale Campus
8333 Little River Turnpike
Annandale, VA 22003

NVCC – Loudoun Campus
21200 Campus Drive
Sterling, VA 20164

NVCC – Woodbridge Campus
15200 Neabsco Mills Road
Woodbridge, VA 22191

June 2014

Table of Contents

1.0	INTRODUCTION AND PURPOSE.....	1
2.0	IDDE TRAINING PROGRAM.....	3
3.0	DOCUMENTATION.....	5
3.1	Annual Reporting to DEQ.....	5
3.2	IDDE Program Updates and Modifications	5
4.0	IDENTIFICATION OF AN ILLICIT DISCHARGE	7
4.1	Defining an Illicit Discharge.....	7
4.2	NVCC's Stormwater Outfall Mapping/Inventory	8
4.3	Awareness during Daily Activities and Operations	9
4.4	Special Local Water Quality Concerns	9
4.5	Reporting Procedures	10
5.0	OUTFALL SCREENING	12
5.1	Dry-Weather Outfall Screening.....	12
5.2	Wet-Weather Screening	15
6.0	INVESTIGATING ILLICIT DISCHARGE	16
6.1	Investigation Triggers and Prioritization.....	16
6.2	Investigation Protocol.....	17
6.3	Timeframes for Performing Investigations	18
7.0	ELIMINATING VERIFIED ILLICIT DISCHARGES	19
7.1	Source Elimination	19
7.2	Follow-up on Source Elimination	20
7.3	Administrative Action, Enforcement and Penalties.....	20

Appendices

- APPENDIX A: NVCC IDDE Points of Contact
- APPENDIX B: NVCC Outfall Reconnaissance Inspection Form
- APPENDIX C: NVCC Outfall Inventory
- APPENDIX D: NVCC IDDE Tracking Form
- APPENDIX E: NVCC Knowledge Check Quiz
- APPENDIX F: NVCC Annual Training Plan Documentation Form
- APPENDIX G: NVCC IDDE Program Support Mapping

ACRONYMS

DCR	Virginia Department of Conservation and Recreation
DEQ	Virginia Department of Environmental Quality
EPA	Environmental Protection Agency
GIS	Geographic Information System
IDDE	Illicit Discharge Detection and Elimination
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
ORI	Outfall Reconnaissance Inventory
TMDL	Total Maximum Daily Load
VAC	<i>Virginia Administrative Code</i>
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program
NVCC	Northern Virginia Community College
WLA	Waste Load Allocation

1.0 INTRODUCTION AND PURPOSE

This manual presents the standard protocol which Northern Virginia Community College (NVCC) will utilize to implement its Illicit Discharge Detection and Elimination (IDDE) Program. The manual provides written procedures to detect, identify, and address unauthorized nonstormwater discharges, including illegal dumping, to NVCC's small municipal separate storm sewer system (MS4). The written procedures are required to be developed, implemented, and updated by NVCC as a condition of the college's MS4 General Permit (MS4 Permit), the permitting mechanism designed to prevent pollutants from entering water bodies through stormwater runoff. The MS4 Permit authorizes stormwater discharges from MS4s to surface waters in urbanized areas of the Commonwealth of Virginia.

The MS4 program is part of the Federal National Pollutant Discharge Elimination System (NPDES), which is authorized through the Clean Water Act. With delegation from the Environmental Protection Agency (EPA), MS4 permits in Virginia are issued through Virginia Pollution Discharge Elimination System (VPDES) and administered by the Virginia Department of Environmental Quality (DEQ). This manual was developed in general accordance with the EPA's, *"Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments."* To ensure compliance with IDDE requirements of the MS4 Permit, NVCC is required to perform the procedures outlined in this manual.

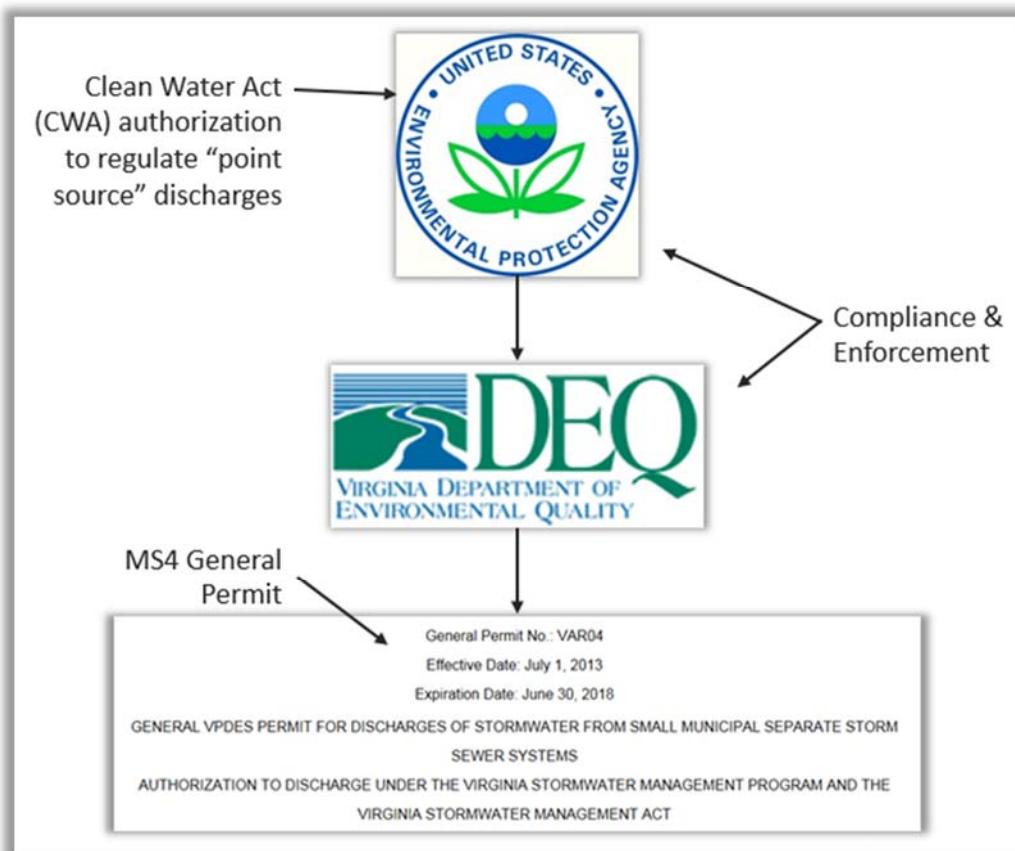


Figure 1. Generalized depiction of the regulatory framework for the MS4 permit.

NVCC's IDDE Program includes five distinct components:

- **Training** – Procedures to train applicable field personnel related to the IDDE Program are discussed in Section 2.0 of this manual.
- **Tracking** – Procedures to track and document all efforts related to the IDDE process are outlined in Section 3.0 of this manual.
- **Identification of an Illicit Discharge** – Procedures to screen, identify and report questionable illicit discharges are outlined in Section 4.0 of this manual.
- **Investigating the source of an Illicit Discharge** – Procedures to investigate questionable illicit discharges that have been reported are outlined in Section 5.0 of this manual.
- **Elimination of an Illicit Discharge** – Procedures to eliminate illicit discharges that have been confirmed through the investigation effort are outlined in Section 6.0 of this manual.

For NVCC to demonstrate compliance to the conditions of the MS4 Permit, documentation of IDDE activities performed is paramount. Section 7.0 describes the appropriate documentation procedures for activities described in the Manual.

2.0 IDDE TRAINING PROGRAM

The MS4 Permit requires NVCC to provide **annual training** (once a year) to applicable field personnel in recognition and reporting of illicit discharges. As part of NVCC's Program, this manual serves as the annual training material to meet the permit requirement. Note that training is also required for Good Housekeeping Pollution Prevention practices to applicable employees and NVCC provides a separate manual as training material for those activities.

The written procedures herein serve as the foundation of a successful IDDE Program towards achieving MS4 Permit compliance. However, implementation and documentation of the procedures are critical for achieving the IDDE Program **goal to eliminate non-stormwater discharges** to NVCC's storm sewer system and ultimately receiving waters. As referenced throughout this manual, the IDDE Program relies on supplemental materials to assist with implementation and documentation of the IDDE Program. Field personnel who are identified for IDDE training should be familiar with each Section of this Manual, NVCC's IDDE Field Guide, and the supplemental materials provided in the Appendices of this Manual, which include:

- **NVCC IDDE Point of Contact for Reporting** – Provides a list of contact information dependent on the type of potential illicit discharge identified or potential source of the discharge. The guide is located in Appendix A.
- **Outfall Reconnaissance Inspection Form** – This form is used for outfall screening to assist in determining the potential of an illicit discharge. The guide is located in Appendix B.
- **Outfall Inventory** – Provides mapping and listing with permit required attributes for outfalls from the NVCC campus. The guide is located in Appendix C.
- **IDDE Tracking Form** – Provides a form for the inclusion of documentation required by the MS4 Permit for each investigation conducted of any suspected illicit discharge. This form will be completed by the NVCC MS4 Program Manager; but required information should be obtained by field staff to assist with the completion of the form. The guide is located in Appendix D.
- **IDDE Training** – Appendix E & F are intended for use by the NVCC MS4 Program Manager, for training documentation purposes. For the applicable field personnel identified in Appendix F, the following training is required to be completed each year:
 - Attend training session. The session will be scheduled by the NVCC MS4 Program Manager with proper notice provided to each applicable field personnel.
 - Completion of the 'Knowledge Check' quiz in Appendix E at the completion of the training session. The quiz will be completed at the end of the training session by applicable field personnel and provided to the trainer.
 - **Support Mapping** – Provides mapping that identifies the locations of all outfalls that are required to be screened. This mapping is intended to be used by field personnel when completing the screening and tracking IDDE's. Mapping can be found in Appendix G.

Upon completion of the annual training sessions and Knowledge Check quizzes, the MS4 Program Manager should complete the information required in Appendix F of this Manual and obtain trainee signatures. Compile any supplemental training material and keep it on record with this form for documentation purposes.

3.0 DOCUMENTATION

As highlighted throughout this Manual, documentation of illicit discharge reports, investigations, and elimination actions is critical for demonstrating compliance to the MS4 permit. In the case of an illicit discharge, NVCC's MS4 Permit requires, at a minimum, the following information:

- ✓ The date or dates that the illicit discharge was observed and reported;
- ✓ The results of the investigation;
- ✓ Any follow-up of the investigation;
- ✓ Resolution of the investigation; and
- ✓ The date that the investigation was closed.

The resolution of a discharge may be a referral to and acceptance by the VDEQ or local government for action; however, this action must be properly documented by NVCC. If the discharge is determined to be a permitted or allowable discharge, then the final action will be documented and the information will be included on the corresponding NVCC Illicit Discharge Tracking Inventory Form. This will enable NVCC to access this information if future requests for information are received concerning the discharge in question.

3.1 Annual Reporting to DEQ

NVCC must annually report to the DEQ information pertaining to its IDDE efforts. The information is included in the overall MS4 annual report due October 1st of each year. Information required for reporting includes:

- 1) A list of any written notifications of physical interconnection given by the operator to other MS4s;
- 2) The total number of outfalls screened during the reporting period, the screening results, and detail of any necessary follow-up action;
- 3) A summary of each investigation conducted by NVCC of any suspected illicit discharge. The summary must include:
 - a. The date the suspected discharge was observed, reported, or both;
 - b. How the investigation was resolved, including any follow-up; and
 - c. Resolution of the investigation and the dates the investigation was closed.

3.2 IDDE Program Updates and Modifications

Modifications to the IDDE Program may occur as part of an iterative process to protect water quality.

Updates and modifications to the Program may be made in accordance with the following procedures:

- Adding (but not eliminating or replacing) practices to the IDDE Program outlined in this manual may be made by NVCC at any time. Additions shall be reported as part of the annual report.
- Updates and modifications to the IDDE Program described in this manual are permitted provided that the updates and modifications are done in a manner that:
 - Is consistent with the conditions of the General Permit;
 - Follow any public notice and participation requirements established in the General Permit; and

- Are documented in the annual report.
- Replacing, or eliminating without replacement, any ineffective or infeasible strategies, policies, and practices described in this manual with alternate strategies, policies, and BMPs may be requested at any time. Such requests must include the following:
 - An analysis of how or why the practices, strategies, or policies are ineffective or infeasible, including cost prohibitive;
 - Expectations on the effectiveness of the replacement practices, strategies, or policies;
 - An analysis of how the replacement BMPs are expected to achieve the goals of the practices to be replaced;
 - A schedule for implementing the replacement practices, strategies, and policies;
 - An analysis of how the replacement strategies and policies are expected to improve NVCC's ability to meet the goals of the strategies and policies being replaced; and
 - Requests or notifications must be made in writing to the Department and signed by a principle executive officer or a duly authorized representative. The duly authorized representative must have overall responsibility of the campus operations and written authorization must be provided to the Department.
 - NVCC follows the Public Involvement requirements identified in the General Permit.

4.0 IDENTIFICATION OF AN ILLICIT DISCHARGE

The municipal separate stormwater sewer (MS4) means a conveyance, or system of conveyances that discharges into surface waters and wetlands. That is, any system of drainages from roads, parking lots, catch basins, curbs, gutters, ditches, man-made channels or storm drains that direct stormwater into a stream, pond, wetland or other similar feature is part of the MS4 for NVCC. These conveyance systems are vulnerable to pollution, which can then travel alone or carried with stormwater to the receiving waters. Substances other than stormwater that enter receiving waters may be considered an illicit discharge and are the focus of this Manual.

An illicit discharge can be: 1) a measurable flow from a storm drain during dry weather that contains pollutants or pathogens; 2) have a unique frequency, composition, and mode of entry in the storm drain system; 3) caused when the sewage disposal system interacts with the storm drain system; or 4) discharges from pollutants from specific source areas and operations known as “generating sites.” Generating sites are identified in the NVCC Good Housekeeping and Pollution Prevention Manual.

4.1 Defining an Illicit Discharge

For the purposes of NVCC’s IDDE Program, the VSMP regulation definition for an illicit discharge is generalized as:

Illicit Discharge - Any discharge to an MS4 that is not composed entirely of stormwater, except discharges specifically identified in the Virginia Administration Code.

Most sources of an illicit discharge on the NVCC campuses are likely to originate from a generating site or activity, such as a washing area or vehicle maintenance area. These could result from daily practices or from a specific spill incident. Table 1 provides source pollutants that could be generated from areas of campus.

Table 1. Examples of source pollutants of an illicit discharge.

<ul style="list-style-type: none">• Automotive fluids (oil, fuel, antifreeze)• Cooking oil and grease• Solvents• Paints• Chemical cleansers (detergents, soaps)• Improperly applied pesticides/herbicides• Improperly managed salts	<ul style="list-style-type: none">• Landscape waste (grass clippings, etc.)• Improperly applied fertilizer• Sediment• Vehicle wash water• Sanitary sewer wastewaters• Dumpster leachate• Trash
---	--

The regulations do have exemptions for some non-stormwater discharges that would not be considered an illicit discharge if not a significant contributor of pollutants to the college’s MS4.

Table 2 includes discharges relevant to NVCC that are not a significant contributors of pollutants and are not considered illicit discharges. If there is uncertainty of the source or constituents within an observed discharge, the NVCC MS4 program Administrator should be contacted immediately so a determination can be made. Contact information is provided in Appendix A.

Table 2. Examples of sources that are not an illicit discharge.

• Fire-fighting activities	• Air condition condensate
• Water line flushing	• Footing or foundation drains
• Landscape/lawn irrigation	• Springs
• Diverted stream flows	• Water from crawl space pumps
• Rising groundwater	• Dechlorinated swimming pool wastewater
• Uncontaminated groundwater infiltration	• Discharges from potable water sources
• Uncontaminated pumped groundwater	• Flows from riparian habitats and wetlands

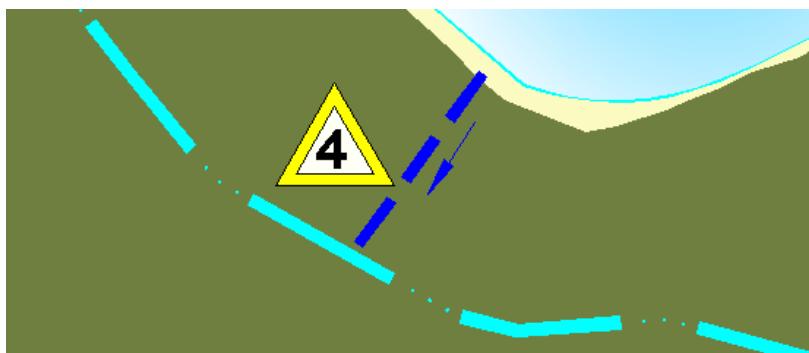
Additional detail for identification of an illicit discharge is provided in the *NVCC IDDE Field Guide*.

4.2 NVCC's Stormwater Outfall Mapping/Inventory

An outfall can be considered a point where NVCC's MS4 discharges concentrated flow to surface waters or wetlands, such as at the end of a pipe or open drainage channel. Generally, these are the locations that drain the campus and can be evaluated routinely to identify potential pollutants. Action can then be taken to prevent these pollutants from passing downstream.

The MS4 permit requires NVCC to maintain a storm sewer map as part of the IDDE Program that includes location and information of outfalls from the storm sewer system, including the drainage area to the outfall and the receiving water body. The mapping is a critical component of the required outfall screening and serves as a tool to identify potential generating sites on campus, the conveyance systems adjacent to them, and the locations where they discharge. Outfall locations are indicated with a yellow triangle and outfall number, as seen in Figure 2 below.

Figure 2. Example indication of a stormwater conveyance with an outfall location.



An illicit discharge identified on campus may also originate from an interconnected upstream MS4. Interconnections are also identified on the mapping to assist with identifying a potential off-site pollutant source. The upstream MS4 should be notified immediately so they can perform an investigation to identify and eliminate the pollutant source. A map of NVCC campus outfalls and interconnections is provided in Appendix G. The Outfall Inventory Form is provided in Appendix C. The MS4 Program Manager should maintain a copy of both the Mapping and Outfall Inventory Form for review upon request by the public or DEQ.

4.3 Awareness during Daily Activities and Operations

Potential illicit discharges can be identified and removed prior to entering the storm sewer with the identification and appropriate follow-up of pollutants exposed to precipitation, and subsequently stormwater runoff. NVCC maintenance and operations employees are in the best position to identify these pollutants such as those identified in Table 1. Figure 3 provides several examples of the observations and actions that could prevent an illicit discharge. If the observer is not qualified or appropriately trained to take the appropriate action, or if illegal dumping is observed, notify the NVCC MS4 Program Manager. The NVCC Good Housekeeping/Pollution Prevention Manual can also be references for instruction on appropriate actions.

<u>Observation</u>	<u>Action</u>
Uncovered dumpster	→ Cover dumpster
Uncovered container	→ Store container indoors
Oil/hydraulic fuel on ground	→ Clean & dispose of properly

Figure 3. Example daily observations and subsequent actions can prevent an illicit discharge.

4.4 Special Local Water Quality Concerns

NVCC's MS4 ultimately discharges to receiving waters that have been identified by the DEQ to not meet water quality standards. Subsequent studies, called Total Maximum Daily Load (TMDL) studies, have been performed by DEQ. The TMDL studies identify specific pollutants causing the impairments to the receiving waters and designate the amount of the pollutant the receiving water can assimilate to achieve water quality standards. A required reduction of the pollutant is typically assigned to the MS4s that drain to the impaired

segment of the water body. It is important that NVCC maintenance and operations employees be aware of these special pollutants shown in Table 3.

Table 3. Special pollutants of concern.

Campus	TMDL	Pollutant	Approval Date
Annandale	Accotink Creek (Lower)	E. Coli	4/28/2009
	Chesapeake Bay	N, P, TSS	-
Alexandria	Ches Bay	N, P, TSS	-
	Potomac River Watershed	PCB	4/11/2008
Woodbridge	Neabsco Creek Watershed	E. Coli	4/28/2009
	Chesapeake Bay	N, P, TSS	-
	Potomac River Watershed	PCB	4/11/2008
Loudoun	Chesapeake Bay	N, P, TSS	-

4.5 Reporting Procedures

NVCC maintenance and operations employees are the first line of defense for preventing sources that could contribute to an illicit discharge. Actions that are taken to remove potential sources of an illicit discharge do not need to be reported unless it is suspected an illicit discharge has previously occurred. In this case, the employee needs to report the concern to the MS4 Program Manager, within 1 business day, who will then document the report in the tracking form provided in Appendix D.

An illicit discharge or potential source for an illicit discharges may also be reported by other individuals that are not trained or authorized to perform necessary actions, such as reports from students, faculty, staff, or contractors. These individuals may recognize a potential illicit discharge after learning about pollution in stormwater runoff through NVCC's public education and outreach efforts. The NVCC stormwater webpage directs these individuals to contact the MS4 Program Manager, who will subsequently perform the appropriate follow-up action and documentation in accordance with Section 6.0 of this Manual. If an employee is otherwise notified, the appropriate action should be taken, and if an illicit discharge is potentially occurring, the MS4 Program Manager shall be notified.

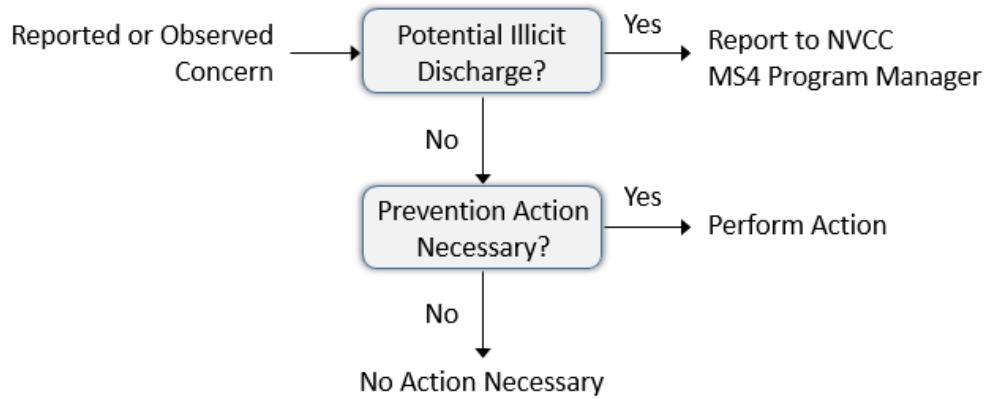


Figure 4. Reporting procedures for NVCC field staff.

5.0 OUTFALL SCREENING

As a minimum effort to identify illicit discharge occurrences from the NVCC MS4, annual outfall screening is required by the Program Plan under the MS4 Permit for all of the outfalls at the NVCC campus. In the case that potential illicit discharges are observed at specific outfalls, subsequent screening at a higher frequency may be necessary if the source is not identified and eliminated. Screening will be performed by an individual designated by the NVCC MS4 Program Manager.

5.1 Dry-Weather Outfall Screening

Outfall screening shall be performed during dry weather using the Outfall Reconnaissance Inspection (ORI) Form provided in Appendix B. Completion of the form serves as the appropriate documentation that the required outfall screening has been performed and should be retained on file for a minimum of 3 years. Outfalls that are flowing during dry weather may indicate an active pollution issue, depending on if rain has occurred during the last 24 to 48 hours. Special attention should be paid to outfalls that are flowing and when no rain has occurred within the last 48 hours. When the screening of an outfall indicates a potential illicit discharge, the NVCC MS4 Program Manager shall be notified within one business day so an investigation, as described in Section 5.0, can be performed.

The ORI Inspection Form includes the following sections, which are to be completed with each annual outfall screening:

- **Section 1: Background Data** – Requires general information regarding when and where the screening was performed, weather conditions at the time of the screening, reference to photos taken. Tips for completing Section 1 include:
 - ✓ The Outfall ID can be found on the Outfall Inventory Map in Appendix G. The map may be updated from time to time to reflect new outfalls.
 - ✓ Take at least 1 photo of the outfall for documentation purposes.
 - ✓ Rainfall data can be gathered from the link below by navigating to the location of the campus on the map and selecting the last day or last 2 days. The map will depict rainfall precipitation ranges using a color scale, as shown in the image capture below:
http://www.srh.noaa.gov/ridge2/RFC_Precip/

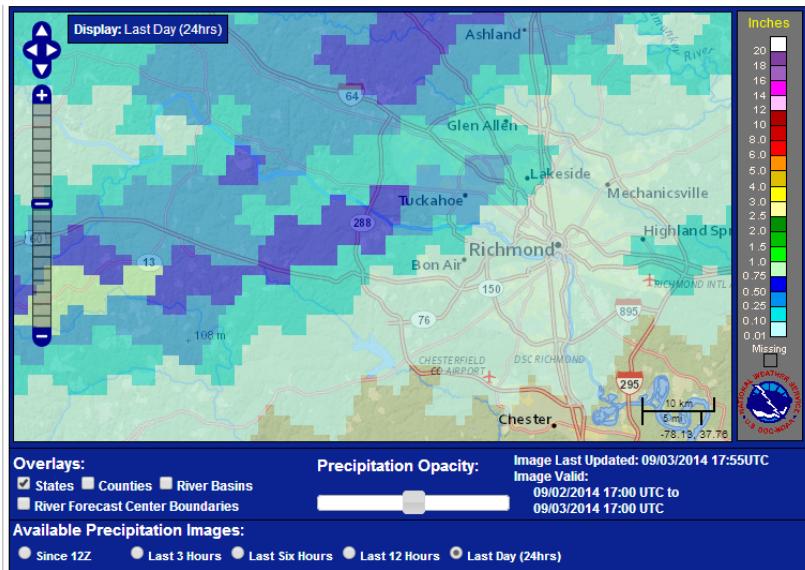


Figure 5. Sample Precipitation Summary

- **Section 2: Outfall Description** – Requires a description of the outfall and determination if flow is present during dry weather. If flow is not present, the inspector can skip to Section 6 of the form. Tips for completing Section 2 include:
 - ✓ If the cross-section of a pipe or channel is abnormal, provide a sketch in the available area of the dimension column and label measured dimensions.
 - ✓ If submerged with sediment, attempt to measure the depth of sediment.
 - ✓ The identification of flow is important since flow during dry weather would indicate a nonstormwater discharge. If a pipe is partially submerged, and it is difficult to identify dry-weather flow, a nearby leaf or blade of grass can be dropped onto the water surface near the outfall. The travel of the object on the surface can help indicate if flow is discharging from the outfall.
 - ✓ Upon completion of this section, if no flow is present, skip to Section 5 of the form.
- **Section 3: Quantitative Characterization for Flowing Outfalls** – Requires quantitative information of the flow present at the outfall, including information to determine an estimate of the flow rate. The pH and ammonia levels require the use of test strips. The purpose of this information is to help identify the source of the discharge. Tips for completing Section 3 include:
 - ✓ Measuring pH can determine whether a flow is industrial or commercial in nature. Normal stormwater has a pH around 7.
 - ✓ High levels of ammonia (> 0.3 ppm) can indicate excess fertilizer or contamination by sanitary wastewater.
 - ✓ Flow rate can be estimated with the following equations. Measured data from the form is shown in **bold**.

Flow #1 (for pipes):

$$\frac{'X' \text{ liters}}{'X' \text{ seconds}} \times \frac{1 \text{ gallon}}{3.78 \text{ liters}} \times \frac{60 \text{ seconds}}{\text{minute}} = \text{Flow in gpm}$$

- ✓ For the Flow #1 calculation, time in seconds is the time to fill the bottle to 'X' liters.

Flow #2 (for open channels):

$$\left[\left(\frac{\text{bot. width (ft)} + \text{top width (ft)}}{2} \right) \times \text{depth (ft)} \right] \times \frac{\text{Length (ft)}}{\text{travel time (seconds)}} \rightarrow$$
$$\times \frac{7.48 \text{ gallons}}{1 \text{ cubic ft}} \times \frac{60 \text{ seconds}}{\text{minute}} = \text{Flow in gpm}$$

- ✓ For the Flow #2 calculation, travel time is estimated by the time it takes a floating object to travel the defined length.
- **Section 4: Physical Indicators for Flowing Outfall** – Requires the observance of physical indicators in the flow, such as odor and color, to assist with identifying the source of the discharge. Tips for completing Section 4 include:
 - ✓ Take photos of visible indicators.
- **Section 5: General Physical Indicators for All Outfalls** – Requires physical indicators be noted that are not related to flow, such as abnormal vegetation and staining, which can indicate that an intermittent discharge has occurred in the past, even if not currently flowing. Tips for completing Section 5 include:
 - ✓ Take photos of visible indicators.
 - ✓ Note benthic growth, such as algae or slime on channel surfaces, which can be an indicator of nutrients in the stormwater runoff. The photo below indicates a green benthic growth potentially caused by the discharge of excessive nutrients.



Example Photo showing algae growth

- **Section 6: Outfall Severity Index** – Requires the assignment of a severity score for prioritizing outfall follow-up investigation, if necessary. Tips for completing Section 6 include:
 - ✓ The severity of concern at an outfall is best judged by the outfall inspector. The rating system provided on the form is intended to provide consistency and guidance; but the intuition of the inspector overrides the scoring rules.
- **Section 7: Any Non-illicit Discharge Concerns** – The inspector performing the outfall screening should not any other concerns such as trash, overgrowth prohibiting flow, or structural concerns of the outfall (e.g. collapsed pipe).

5.2 Wet-Weather Screening

While dry-weather screening events can identify possible illicit interconnections that are continuous, wet weather screening events may identify pollutant discharges that are temporary and/or likely to result from improper storage of polluting materials or inadequate cleanup of off-site pollutant releases. Wet-weather screening may be appropriate if dry weather screening identifies physical indicators from Sections 4 and 5 of the ORI Inspection Form.

6.0 INVESTIGATING ILLICIT DISCHARGE

In the case of the identification of an illicit discharge, it is necessary to conduct an investigation to identify and eliminate the source of the discharge. An investigation may result from:

- A report to NVCC staff from the general public;
- A report from an interconnected MS4; or
- Results of outfall screening.

The determination of if an illicit discharge has occurred will be made by the NVCC MS4 Program Manager. **In all cases of an illicit discharge, the NVCC Illicit Discharge Tracking Form must be completed for MS4 permit annual reporting documentation purposes.**

An investigation of an illicit discharge may result in the source being easily identified or may be complex and should utilize instruction in this manual, the IDDE Field Guide, storm sewer mapping and may require coordination with administrators of interconnected MS4s. Recall that contact information for interconnected MS4s is provided in Appendix A.

The following sections outline the methodologies that shall be followed in the investigation an illicit discharge.

6.1 Investigation Triggers and Prioritization

Upon the identification of an illicit discharge, the date, location, and description must be reported in the NVCC Illicit Discharge Tracking Form (Columns 1, 2, 3, and 4 of the form). Note that Section 6 of the ORI Inspection Form should be referenced to estimate a severity Index classification. The following shall trigger an investigation:

- The determination of the occurrence of an illicit discharge by the MS4 Program Manager based on an observed illicit discharge by NVCC staff, such as during daily activities, or a follow-up from a reported observation.
- A severity index classification of either potential, suspect, or obvious. If more than one outfall screenings produces one of these classifications, investigation efforts shall be prioritized as:
 - Obvious – Illicit discharge(s) suspected of being sanitary sewer discharges or significantly contaminated would have this classification.
 - Suspect – Numerous physical indicators result in this classification.
 - Potential - These discharges should not be expected to be hazardous to human health and safety.

The start date of the investigation is required to be provided on the NVCC Illicit Discharge Tracking Form.

6.2 Investigation Protocol

An investigation of an illicit discharge may result in the source being easily identified or may be complex and should utilize instruction in this manual, the IDDE Field Guide, storm sewer mapping and may require coordination with administrators of interconnected MS4s.

Based on the familiarity of the campus and its drainage areas, an initial field evaluation may easily identify the source of an illicit discharge. Once found, the source should be documented on the NVCC Illicit Discharge Tracking Form. The remainder of the form shall be completed as appropriate to indicate the source has been eliminated, if applicable, and provide an ending date for the investigation. **It is critical that documentation on the NVCC Illicit Discharge Tracking Form is complete to demonstrate illicit discharges have been addressed permit MS4 permit conditions.**

If the source of an illicit discharge is not easily identified, further investigation is necessary and should be guided by the following procedures:

- 1) Track the illicit discharge to its point of entry into the storm sewer. Tracking can be supplemented with review of the NVCC outfall mapping to identify the drainage area of the illicit discharge. Cross reference the mapping with the NVCC Stormwater Pollution Prevention (SWPPP) mapping provided in the NVCC Good Housekeeping & Pollution Prevention Manual that indicates areas most likely to be the source of pollutants.
- 2) Conduct field inspection of the drainage area near the point of entry to identify the potential pollutant source. Document potential sources with photos, ensuring the photos give the appropriate context to the location of the source.

NVCC Staff will primarily rely upon visual inspections of the areas in the storm sewer system above the outfall at which an illicit discharge is detected. Sampling and analysis can be performed as necessary to determine the characteristics of the illicit discharge and to help identify the most likely source. Improper connections and unpermitted cross-connections to the storm sewer system can be detected by utilizing a combination of methods to investigate non-stormwater discharges, such as visual/video inspections, and dye or smoke tracer testing. Dry-weather testing at a discharge point assists in identification of abnormal conditions such as sporadic or continuous discharge, which can facilitate tracing of the source. Tracking techniques also include visual inspections of drainage structures and lines, dye testing, damming lines to isolate areas, video inspection, indicator monitoring, smoke testing, and optical brightener monitoring traps. Other more elaborate approaches include using remote sensing tools to identify soil moisture, water temperature, and vegetation anomalies associated with illegal dumping activities. Due to the size of the NVCC campuses, it is not anticipated these types of tracking strategies will be necessary and further discussion is outside of the scope of this Manual.

If the illicit discharge is determined to originate outside of the NVCC property, then the appropriate locality and/or MS4 Program authority will be contacted by NVCC staff and the request made to eliminate the discharge. The interconnected MS4 should initiate corrective action per their prescribed process. NVCC staff

will follow up with the responsible entity to verify the corrective action has been successfully implemented, and the final action will be documented and tracked on the NVCC Illicit Discharge Tracking Form.

Additional detail for conducting an investigation is provided in the *NVCC IDDE Field Guide*.

6.3 Timeframes for Performing Investigations

In general, the timeframe for initiation of an investigation should be prioritized with first priority given to illicit discharges suspected of being sanitary sewage or otherwise significantly contaminated. More specifically, timeframes for initiating an investigation are established as follows:

- Obvious – First priority, begin inspection within 2 business days of identification of an illicit discharge.
- Suspect – Second priority, begin inspection within 1 week of the report of a suspected illicit discharge.
- Potential - Third priority, begin inspection within 2 weeks of the report of a potential illicit discharge.

If, after performing an investigation of an observed or reported illicit discharge, the source of the discharge has not been identified and the non-stormwater discharge has not been detected again after 6 months, efforts will be documented and the discharged identified as “non-recurring” with “source not found” on the NVCC Illicit Discharge Tracking Form. At that time, no further action is necessary. However, investigatory due diligence should include (with documentation):

- The tracking and field inspection methods described in the previous Section were performed;
- At least one additional dry-weather screening during the 6 month time period; and
- At least one wet-weather screening.

If an observed discharge is intermittent, NVCC staff will perform three separate investigations attempting to observe the discharge when it is flowing. If these attempts are unsuccessful, NVCC staff will also document the occurrence and process and no further action is necessary.

7.0 ELIMINATING VERIFIED ILLICIT DISCHARGES

The ultimate goal of the IDDE Program is to eliminate illicit discharges from the MS4. Once an illicit discharge has been identified and an investigation has determined the source of the discharge, the appropriate actions need to be taken and documented to eliminate the discharge.

7.1 Source Elimination

NVCC prohibits illicit discharge into its MS4 through language provided within the Standards of Conduct for employees and the Student Handbook for students. Prohibition is also addressed through contract language with contractors performing work on campus. Further, NVCC's daily operations intend to prevent illicit discharges through the practices described in the NVCC Good Housekeeping and Pollution Prevention Manual. Through these mechanisms, NVCC can eliminate illicit discharges in which the source occurs on campus property.

<u>Source/Discharge Type</u>	<u>Elimination Authority</u>
Intentional by Student	→ Student Handbook
Intentional by Faculty/Staff	→ Standards of Conduct for Employees
Staff During Daily Operations	→ Good Housekeeping/Pollution Prevention Manual

Figure 6. NVCC authority for prohibition of illicit discharges on campus.

When an illicit discharge originates within NVCC's property, NVCC staff will take the necessary corrective action to eliminate the discharge. Follow-up inspections may be necessary to ensure the discharge into the NVCC storm drain system has ceased. Periodic inspections should be conducted during both wet and dry-weather after the initial illicit discharge to confirm the identified discharge has been eliminated. Actions and resolutions must be documented and maintained on file for 3 years.

When the source of an illicit discharge originates off campus, and therefore NVCC does not have authority to eliminate the source, the Virginia Department of Environmental Quality (DEQ) and interconnected MS4 should be contacted by the MS4 Program Manager, as applicable. Figure 7 the enforcement authorities to contact based on the type of illicit discharge. This list is not all inclusive, but was developed in coordination with DEQ and is based on typical sources of illicit discharges.

Reports of illicit discharge to an outside agency should be maintained on file and include all information related to the case including dates, locations, photos, results of screenings and investigations, and identified sources. The report should also request confirmation from the locality or DEQ that the case has been resolved.

<p>Interconnected MS4 (City, County or VDOT, as applicable)</p> <ul style="list-style-type: none"> • Cooking oil & Grease • Paints • Chemical Cleansers (e.g. detergents, soaps) • Landscape Wastes (e.g. leaves, grass clippings) • Fertilizers • Sediment from off-campus sources • Septic/sewer wastewater • Gray water (e.g. clothes washing, dishwasher) 	<p>DEQ (Pollution Response & Preparedness Program)</p> <ul style="list-style-type: none"> • Automotive fluids • Solvents • Pesticides and herbicides • Chlorinated swimming pool discharges • Unknown/other
--	---

Figure 7. Illicit discharge enforcement contacts for off-site illicit discharges entering the NVCC MS4s.

7.2 Follow-up on Source Elimination

Prior to closure of an illicit discharge investigation, NVCC is required to conduct or request a follow-up investigation to ensure the illicit discharge has been eliminated. When the source originated on campus, the follow-up investigation may simply include a field inspection with documentation including a photos where the source had previously been identified. In the case of an off-campus illicit discharge, follow-up should include a request for follow-up information from the appropriate upstream enforcement entity. Documentation is also required on the NVCC Illicit Discharge Tracking Form.

7.3 Administrative Action, Enforcement and Penalties

NVCC prohibits illicit discharge into its MS4 through language provided within the Standards of Conduct for employees and the Student Handbook for students, each of which provide methods and procedures for reporting and corrective and disciplinary action. Prohibition is also addressed through contract language with contractors performing work on campus. If an individual or entity is identified during an illicit discharge investigation to be responsible for intentionally contributing to the discharge, the following binding documents will be utilized to conduct any necessary administrative action, enforcement, or penalties”

- Student Handbook – Intentionally causing an illicit discharge could be considered damage to College property or facilities and a violation of state and federal law under the Clean Water Act. Student disciplinary policies and procedures, as prescribed in the Student Handbook, will dictate the appropriate action.
- Standards of Conduct (employees) - Intentionally causing an illicit discharge could be in conflict with the standard of conduct requiring compliance to laws and regulations of the Commonwealth. Corrective and disciplinary actions will be as prescribed in the administration of the Commonwealth’s disciplinary system.
- Contract Language – NVCC can pursue limited administrative actions within its authority, such as revocation with a Stop Work Order for construction sites or suspension or revocation of a contract.

Administrative action is the least desirable outcome of the NVCC IDDE program; however, it may be necessary in the following situations:

- Recurring or egregious illicit discharge incidents;
- Failure of a person knowingly responsible for an illicit discharge to notify NVCC or DEQ; or
- Refusal by the responsible party to voluntarily take corrective action on an illicit discharge, once it is brought to their attention.

Because NVCC has limited legal authority, any legal action would likely be initiated by a state or federal environmental agency in conjunction with the appropriate law enforcement agency. In some cases, as determined necessary by the MS4 Program Manager, NVCC may pursue common law trespass as a legal means to stop an illicit discharge.

One or more of the following enforcement actions will be performed for confirmed illicit discharges:

- Upon NVCC verification that the reported incident is a valid illicit discharge, the responsible party will be notified immediately (by letter) of the requirement to correct the illicit discharge and, when appropriate, remediate the area affected by that discharge.
- The appropriate State Authority and/or DEQ will be notified in writing of the illicit discharge in certain cases where the discharge is occurring within a live watercourse.
- NVCC may revoke or suspend a contract issued to an outside party for temporary or permanent use of a NVCC property should an illicit discharge be detected and not corrected by the responsible party.

NVCC may refer the complaint to DEQ for further investigation, following their procedures including enforcement provisions in accordance with the Code of Virginia (§18.2-119) as appropriate.

APPENDIX A: NVCC IDDE Points of Contact

NVCC ILLICIT DISCHARGE DETECTION AND ELIMINATION POINTS OF CONTACT

Below is a table of points of contact that can be useful throughout the various components of the Good Housekeeping/Pollution Prevention Program.

NVCC – Points of Contact		
Sara Rilveria – MS4 Program Manager		(703) 323-4160
MS4 Localities – Points of Contact		
City of Alexandria Fairfax County Loudoun County Prince William County	IDDE Reporting Public Works Public Works IDDE Reporting	(703) 746-4200 (703) 324-5033 (703) 771-5552 (703) 792-7070
VDOT	NOVA District	800-367-7632
Agency – Points of Contact		
DEQ	Pollution Response & Preparedness Program	(804) 698-4000
Emergency Notification		911
National Response Center		(800) 424-8802

APPENDIX B: NVCC Outfall Reconnaissance Inspection Form

SAMPLE OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Campus:	Outfall ID:		
Today's date:	Time:		
Investigators:	Form completed by:		
Temperature (°F):	Rainfall (in.):	Last 24 hours:	Last 48 hours:
Camera:	Photo #s:		
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	CROSS-SECTION (SHAPE)		DIMENSIONS (IN.)	SUBMERGED
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> Concrete	<input type="checkbox"/> Circular	<input type="checkbox"/> Single	Diameter/Dimensions: _____	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> Corrugated Metal	<input type="checkbox"/> Elliptical	<input type="checkbox"/> Double		
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Box	<input type="checkbox"/> Triple		
	<input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____		
<input type="checkbox"/> Open channel	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Depth: _____ Top Width: _____ Bottom Width: _____		
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic			
	<input type="checkbox"/> Rip-Rap	<input type="checkbox"/> Other: _____			
	<input type="checkbox"/> Other: _____				
Flow Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<i>If No, Skip to Section 5</i>		
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER		RESULT	UNIT	EQUIPMENT
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	Stop watch
<input type="checkbox"/> Flow #2	Flow depth		In	Tape measure
	Flow width	____ ' (Top) ____ " (Bottom)	Ft	Tape measure
	Measured length	____ ' ____ "	Ft	Tape measure
	Time of travel		S	Stop watch
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? Yes No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: General Physical Indicators for both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? Yes No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Corrosion <input type="checkbox"/> Peeling Paint	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	.
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Severity Index

An IDDE score will be calculated by summing the Severity Indexes in section 4 and adding the number of indicators checked as present in section 5

Unlikely (No indicator checked as present in Section 4 OR only **one (1)** indicator checked as present in Section 5)

Potential – (one (1) indicator with a severity of **one (1)** in Section 4 OR **two (2)** indicators checked as present in Section 5)

Suspect - IDDE score of Three (3) (one or more indicators checked in Section 4 with a total of severities **equal to three (3)** OR **more than two (2)** indicators checked as present in Section 5 OR a total of severities in Section 4 plus indicators checked as present in Section 5 is equal to three (3))

Obvious – IDDE score of greater than Three (3) (one or more indicators checked in Section 4 with the total of the severities is **greater than three (3)** OR a total of severities in Section 4 plus indicators checked as present in Section 5 **is greater than three (3)**).

IDDE Notes:

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

APPENDIX C: NVCC Outfall Inventory

Northern Virginia Community College Outfall Reconnaissance Inventory

Alexandria Campus

Outfall ID	Area Draining to Outfall (Acres)	Receiving Water	Receiving Water Impaired (2010 303(d)/305(b))	HUC	Applicable TMDL(s)	TMDL Pollutants	Date of Last Screening	Summary of Screening Results	Details of Any Necessary Followup	Date of Followup Resolution
NVCC-AL-A	3.3	Unnamed Tributary	N/A	PL-25	Chesapeake Bay, Patomac River Watershed (4/11/2008)	Nitrogen, Phosphorus, Total Suspended Solids, PCB				

Annandale Campus

Outfall ID	Area Draining to Outfall (Acres)	Receiving Water	Receiving Water Impaired (2010 303(d)/305(b))	HUC	Applicable TMDL(s)	TMDL Pollutants	Date of Last Screening	Summary of Screening Results	Details of Any Necessary Followup	Date of Followup Resolution
NVCC-AN-A	32.08	Unnamed Tributary	N/A	PL-30	Chesapeake Bay, Accotink Creek (Lower) (4/28/2009)	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. Coli</i>				

Loudoun Campus

Outfall ID	Area Draining to Outfall (Acres)	Receiving Water	Receiving Water Impaired (2010 303(d)/305(b))	HUC	Applicable TMDL(s)	TMDL Pollutants	Date of Last Screening	Summary of Screening Results	Details of Any Necessary Followup	Date of Followup Resolution
NVCC-LO-A	OFFSITE	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				
NVCC-LO-B	OFFSITE	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				
NVCC-LO-C	1.02	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				
NVCC-LO-D	1.13	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				
NVCC-LO-E	4.16	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				
NVCC-LO-F	0.988085399	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				
NVCC-LO-G	2.47	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				
NVCC-LO-H	1.066414141	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				
NVCC-LO-I	2.68	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				
NVCC-LO-J	1.09	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				
NVCC-LO-K	5.03	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				
NVCC-LO-L	4.59	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				
NVCC-LO-M	3.49	Unnamed Tributary	N/A	PL-20	Chesapeake Bay	Nitrogen, Phosphorus, Total Suspended Solids				

Woodbridge Campus

Outfall ID	Area Draining to Outfall (Acres)	Receiving Water	Receiving Water Impaired (2010 303(d)/305(b))	HUC	Applicable TMDL(s)	TMDL Pollutants	Date of Last Screening	Summary of Screening Results	Details of Any Necessary Followup	Date of Followup Resolution
NVCC-WO-A	5.35	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek Watershed (4/28/2009) Potomac River Watershed (4/11/2008)	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-B	1.45	Unnamed Tributary	N/A	PL-O	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-C	42.26	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-D	19.09	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-E	1.74	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-F	3.12	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-G	0.59	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-H	0.65	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-I	2.39	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-J	0.48	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-K	2.91	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-L	2.98	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-M	0.1	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-N	0.1	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				
NVCC-WO-O	0.1	Unnamed Tributary	N/A	PL-49	Chesapeake Bay, Neabsco Creek	Nitrogen, Phosphorus, Total Suspended Solids, <i>E. coli</i> , PCB				

APPENDIX D: NVCC IDDE Tracking Form

IDDE TRACKING Form

Date Illicit Discharge Observed/Reported: _____ Outfall # (if applicable): _____

Description of IDDE: _____

Date of Investigation: _____

Was the Source found? Yes No

If "Yes", please describe: _____

Was IDDE Resolved? Yes No

If "Yes", please explain how it was resolved (Please include any personnel or outside parties contacted or involved):

If "No", please explain why it was not resolved: _____

Is any follow-up action required? Yes No

If "Yes", please explain: _____

Date investigation closed: _____

Attach photos to this form and retain for records.

APPENDIX E: NVCC Knowledge Check Quiz

IDDE Knowledge Check Quiz

Name: _____

Date: _____

1. IDDE stands for:
 - a. Illegal Dormant Discharge and Experiment
 - b. Illicit Discharge Detection and Elimination
 - c. Important Discovery Development and Explosion
 - d. Impulsive Document Disposal and Exposure

2. An illicit discharge is defined as:
 - a. Wearing away of soils by wind, air, and rain.
 - b. A discharge from a harmful chemical reaction
 - c. Discharges from permitted industrial operations
 - d. Any discharge that is not composed entirely of stormwater

3. The IDDE program outlines actions to eliminate illicit discharges including all of the following except:
 - a. Identify the source
 - b. Ignore the complaint
 - c. Investigate the discharge
 - d. Document activities

4. The severity index classifications to prioritize illicit discharges do NOT include:
 - a. Obvious
 - b. Preventative
 - c. Potential
 - d. Suspect

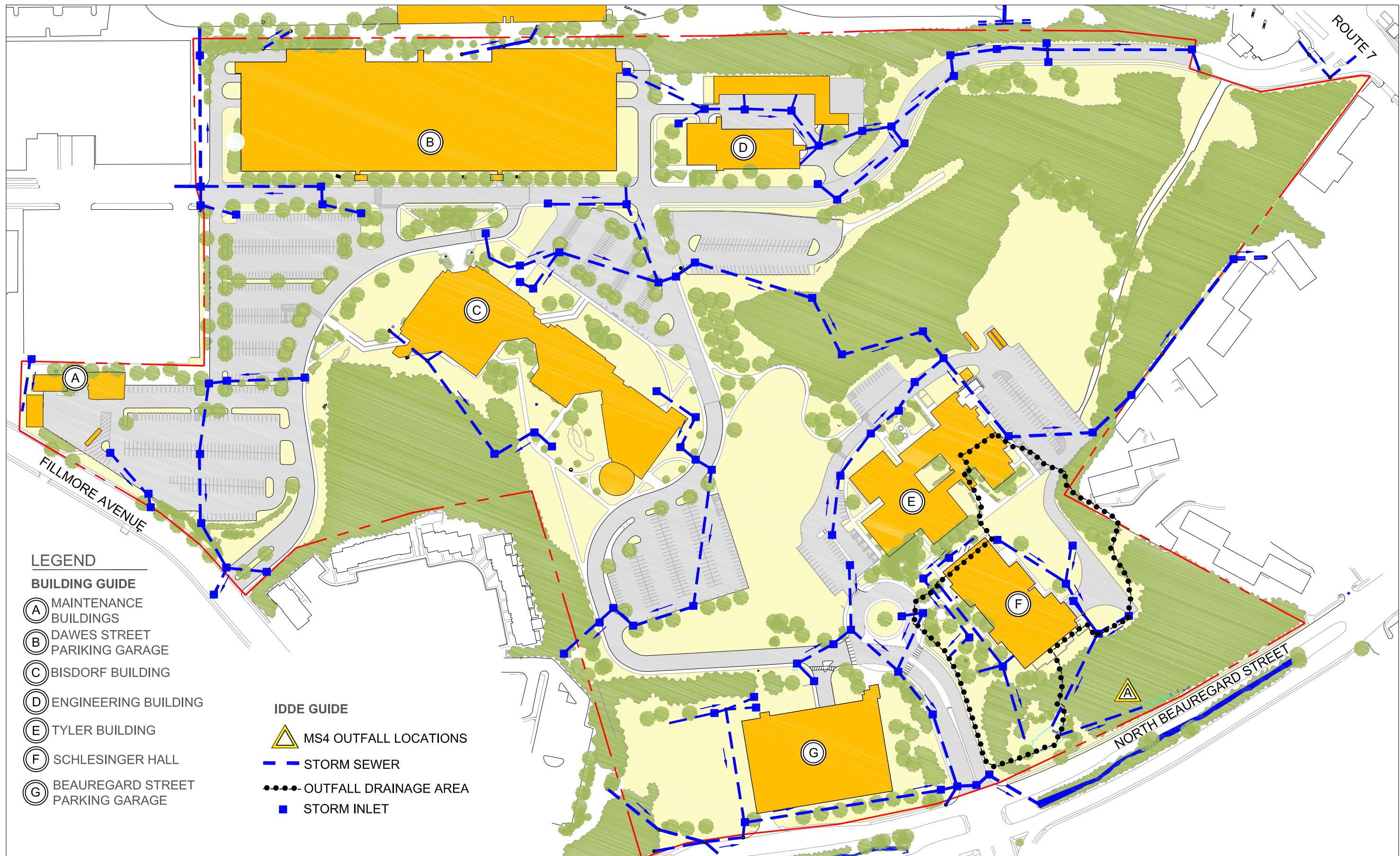
5. If the source of an Illicit Discharge is not easily identifiable you should:
 - a. Leave the site
 - b. Come back next year
 - c. Call the police department
 - d. Track the discharge to its point of entry into the drainage system and document conditions

6. If the illicit discharge originates outside of the property the proper action is to:
 - a. Contact the adjacent locality/authority and request the elimination of the discharge
 - b. File charges in court.
 - c. Ignore it because you aren't causing it.
 - d. Re-inspect at a later date.
7. The goal of the IDDE program is to:
 - a. Eliminate non-stormwater discharges
 - b. Prevent erosion
 - c. Prevent overuse of fertilizers
 - d. Protect animal welfare.
8. True or False: To qualify as an illicit discharge it must occur continuously, and one time episodes do not qualify.
9. Which of these sources is an illicit discharge:
 - a. Waterline flushing
 - b. Air conditioning condensate
 - c. Automotive fluids
 - d. Fire-fighting activities
10. An outfall can be defined as:
 - a. A drop inlet in the parking lot
 - b. A filter that separates oil and water
 - c. A location where concentrated flow discharges to surface waters
 - d. A low lying wet area commonly filled with cattails

APPENDIX F: NVCC Annual Training Plan Documentation Form

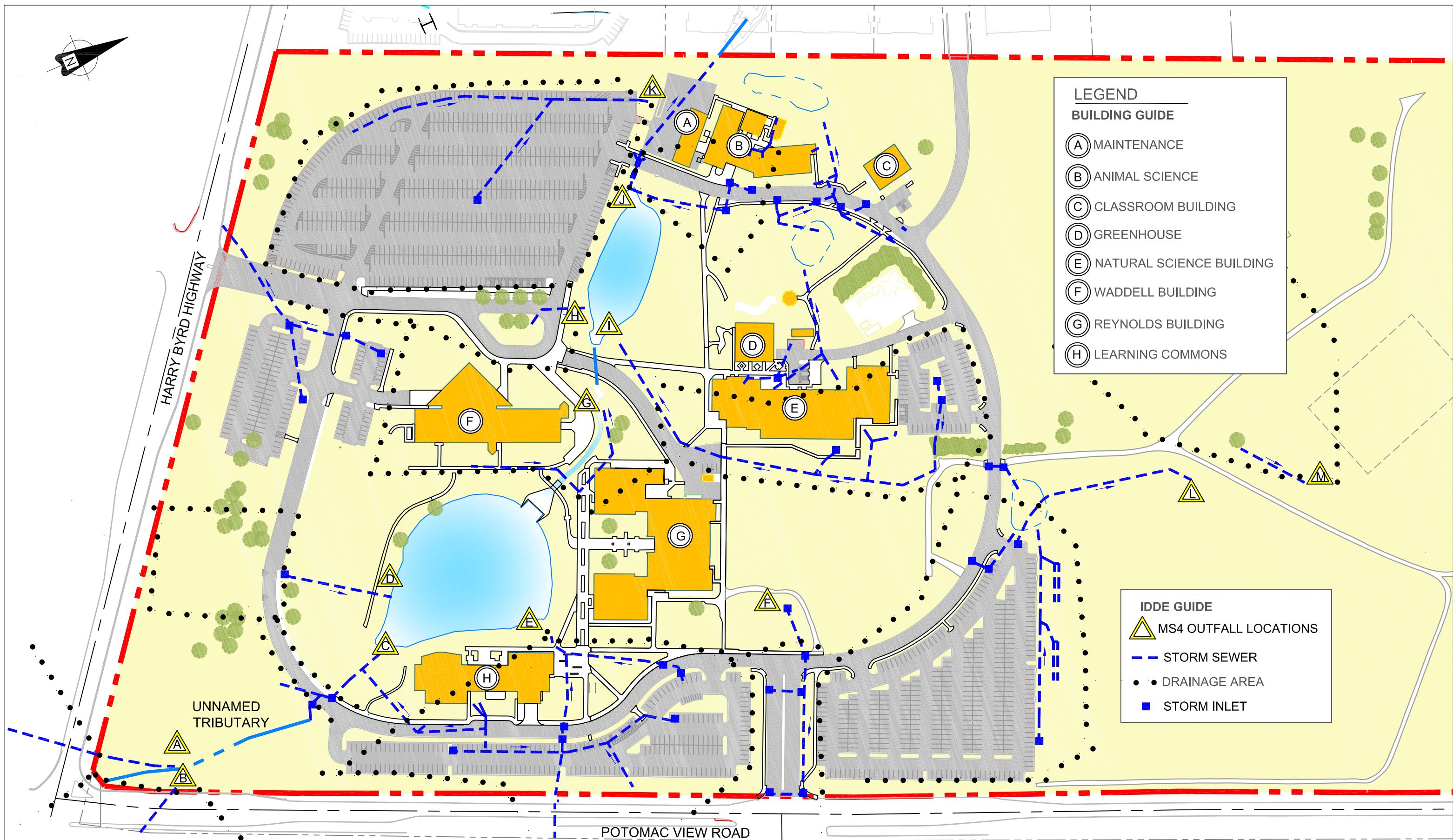
Northern Virginia Community College Annual IDDE Training Plan Documentation Form

APPENDIX G: NVCC IDDE Program Support Mapping



NORTHERN VIRGINIA COMMUNITY COLLEGE
ALEXANDRIA CAMPUS - SWPPP
IDDE PROGRAM SUPPORT MAPPING

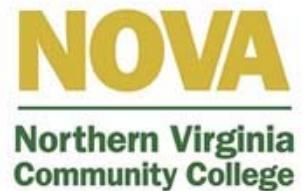




NORTHERN VIRGINIA COMMUNITY COLLEGE
LOUDOUN CAMPUS
IDDE PROGRAM SUPPORT MAP



NORTHERN VIRGINIA COMMUNITY COLLEGE
WOODBRIDGE CAMPUS
IDDE PROGRAM SUPPORT MAP



Illicit Discharge Detection and Elimination

FIELD GUIDE

For Elimination of Polluted Stormwater in GCC Stormwater Systems

NVCC - Alexandria Campus
5000 Dawes Avenue
Alexandria, VA 22311

NVCC - Annandale Campus
8333 Little River Turnpike
Annandale, VA 22003

NVCC – Loudoun Campus
21200 Campus Drive
Sterling, VA 20164

NVCC – Woodbridge Campus
15200 Neabsco Mills Road
Woodbridge, VA 22191

JUNE 2014

ITEMS INCLUDED IN THIS GUIDE

- Introduction
- Examples of what **IS** an Illicit Discharge (Polluted Stormwater)
- Illicit Connections
- Examples of what **IS NOT** an Illicit Discharge
- Illicit Discharge Initial Field Review
- Techniques for Conducting a Field Investigation
- Determining the Source of the Illicit Discharge
- Documentation of Suspected Illicit Discharges
- Coordination of Actions Following Initial Field Review
- Closure for Suspect Illicit Discharges

INTRODUCTION

Northern Virginia Community College (NVCC) is committed to ensuring that stormwater runoff from all its roadways and facilities comply with all federal and state environmental regulatory requirements.

Stormwater run-off is rainwater and melted snow that runs off the surface of streets, lawns, farms and construction and industrial sites. In undeveloped areas, much of the stormwater run-off is absorbed into the ground. That which is not absorbed by the ground ultimately flows into streams and rivers. Developed areas contain impermeable surfaces such as pavement and buildings that prevent stormwater from being absorbed into the ground, and thus increase stormwater runoff into storm drains, storm sewer systems and drainage ditches.

Excess stormwater run-off has the potential for causing infrastructure damage, downstream flooding and stream bank erosion. Also, metals, oils and grease, bacteria and other pollutants not filtered from the runoff can contaminate streams, rivers, wetlands, etc.

The Municipal Separate Storm Sewer System (MS4) Permit requires NVCC to develop an Illicit Discharge Detection and Elimination (IDDE) program. The IDDE program must incorporate the following four elements:

- Develop an MS4 map showing the location of all outfalls: mapping to be completed by Central Office Maintenance Division;
- Develop and implement a plan to detect and address illicit discharges, including illegal dumping, to the NVCC system;
- To the extent allowable under state law, prohibit illicit discharges into the MS4; and
- Inform public employees, businesses, and the general public of the hazards.

This IDDE Field Guide is designed to assist field personnel with detection, investigation and elimination of illicit discharges to NVCC's regulated small MS4 and is designed to complement the NVCC *Illicit Discharge Detection and Elimination Program Manual*. This guide describes conditions that personnel may encounter and actions they need to take, and it should be utilized in field operations.

EXAMPLES OF WHAT IS AN ILLICIT DISCHARGE

What is an Illicit Discharge?

An illicit discharge is defined in NVCC's MS4 permit as “any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a VPDES or VSMP permit (other than the VSMP permit for discharges from the municipal separate storm sewer), discharges resulting from firefighting activities, and discharges identified by and in compliance with 9VAC25-870-400 D 2 c (3).”

Sanitary Stormwater from Showers, Sinks, etc.



Discharge of Oil, Fuel from Vehicles and Equipment



Grass Clippings and Leaves When Intentionally Blown into Drains



Solvents



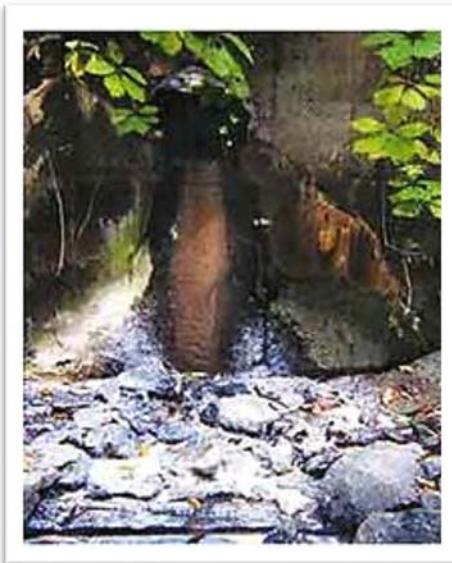
Cooking Oil and Grease



Cleaning Chemicals



Paints



Sediment



Improper Disposal of Radiator Fluid



Non-residential Vehicle Wash Water



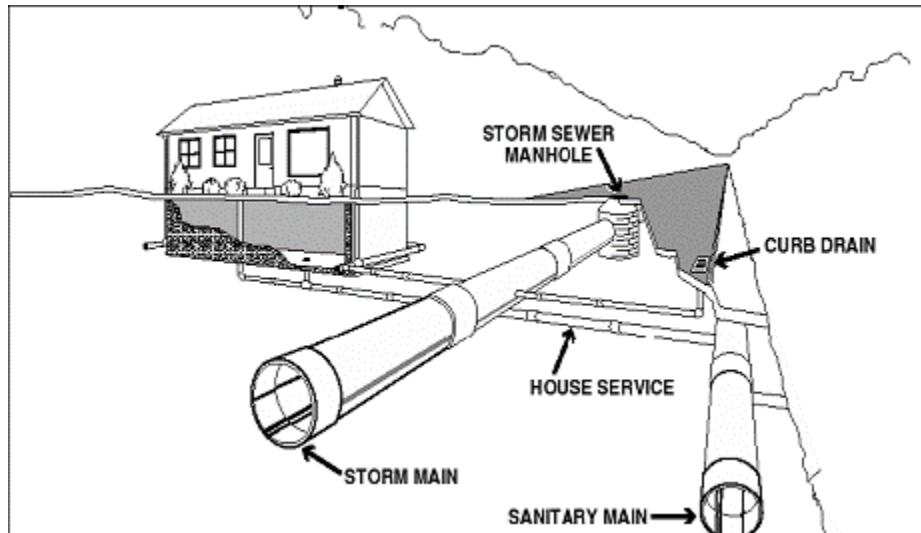
Mismanagement/Excess Road Salt



Illicit Connections

Illicit connections occur when drainage pipes or other conveyances are improperly connected to the storm drain system. These improper connections are often sources of illicit discharges. Examples include:

- A sewer pipe improperly connected to the storm sewer that is discharging raw sewage
- A shop floor drain that is connected to the storm sewer system
- A pipe from a residential household discharging gray water into the storm drainage system



Unpermitted Cross-Connections

Unpermitted cross-connections are between the MS4 and sanitary sewer. Such connections increase the risk of introducing water polluted with human-related bacteria and other contaminants and are considered illicit discharges.

Sewer can be attached to pipes and manholes that were either not identified or mistakenly identified. These connections must be removed and proper connections made to ensure the integrity of the MS4.

EXAMPLES OF WHAT IS NOT AN ILLICIT DISCHARGE

Fire Fighting Activities



Agricultural Irrigation Water



Foundation/Footing Drains



Dechlorinated Swimming Pool Discharges



Landscape Irrigation and Lawn Watering



Water Line Flushing



EXAMPLES OF WHAT IS NOT AN ILLICIT DISCHARGE

Basement/Crawlspace Sump Pumps



Discharges from Potable Water Sources



Air Conditioning Condensation



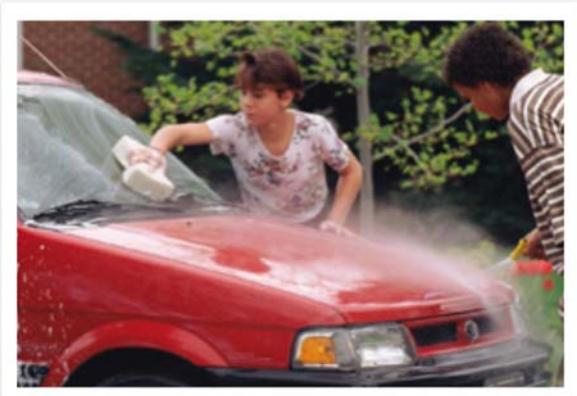
Street Wash Water



Springs



Residential Car Wash Water



EXAMPLES OF WHAT IS NOT AN ILLICIT DISCHARGE

Other discharges not considered illicit discharges include:

- Uncontaminated groundwater infiltration,
- Uncontaminated pumped groundwater,
- Rising groundwaters,
- Flows from riparian habitats and wetlands, and
- Those discharges covered under a Virginia Pollution Discharge Elimination System (VPDES) or National Pollutant Discharge Elimination System (NPDES) permit;
- Fuel, oil or antifreeze spills related to a vehicular accident that is properly cleaned up through normal incident management practices are not considered an illicit discharge. Staff should nevertheless monitor the site during and/or after the incident to ensure that the cleanup is sufficient.
- Drums or other containers containing potentially hazardous materials that are found abandoned are considered unknowns or other potential hazardous materials cargo. Do **NOT** open containers. Contact your local hazardous material response team.

Are there any exceptions?

In the event that any of these activities are found to cause sewage, industrial wastes or other potentially significant sources of pollution to be discharged into the NVCC Stormwater system, the source should be further investigated. The county or city having jurisdiction over the source shall be notified, as they have the authority to order the activity to cease.

ILLICIT DISCHARGE INITIAL FIELD REVIEW

The proper staff will conduct initial field reviews for potential illicit discharges. These assignments will be coded as Polluted Stormwater (IDDE).

Polluted Stormwater (IDDE) work orders are typically generated from one of the following sources:

- 1. Faculty, Staff, Students, or Citizens observe a suspect discharge and report it**
 - The proper staff will follow guidance to determine if a call needs to be routed to local HAZMAT or if it is considered an Illicit Discharge (ID).
 - The proper staff enters the information into the IDDE Tracking form.
 - Proper procedures are followed to track and eliminate the discharge.
 - Proper follow-up protocol are followed and documented to ensure that the ID was eliminated.
- 2. NVCC maintenance personnel observe an illicit discharge and report it to the Facilities Manager.**
 - The proper staff will follow guidance to determine if suspected ID need to be routed to local HAZMAT or if it is considered an Illicit Discharge (ID).
 - The proper staff enters the information into the IDDE Tracking form.
 - Proper procedures are followed to track and eliminate the discharge.
 - Proper follow-up protocol are followed and documented to ensure that the ID was eliminated.

Initial Field Review requires a site visit to determine if the condition described in the work order can be verified. The citizen or other reporting party should be contacted if the site location cannot be found, and in many cases, it may be advisable to meet them onsite. Many illicit discharges are intermittent and may not be present at the time of your visit, so the person may be capable of better isolating the time and circumstances surrounding the discharge they reported.

TECHNIQUES FOR CONDUCTING A FIELD INVESTIGATION

During field investigations, suspect discharges should be evaluated based on:

Odor

Odors may indicate an illicit discharge has occurred. The presence of sewage, sulfide, or rancid/sour odors may indicate the presence of wastewater in the system. Petroleum and chemical odors may indicate that a possible spill has occurred nearby.

Do not enter confined areas such as culverts, drop inlets, manholes or other enclosed areas to investigate the origin of odors. Gases may accumulate in these areas that can overcome the entrant.

Color

Certain water colors may also indicate the presence of an illicit discharge. Brown, gray, yellow, green, orange or red water should be noted. Water that is tinted brown may be due to the presence of naturally occurring tannins in the surrounding environment and may not be an illicit discharge. Turbid, cloudy water may indicate the presence of excessive siltation or other pollutants entering the stormwater.

Staining/Discoloration

The presence of stains or discoloration in or around an outfall may be signs that an illicit discharge is occurring or has occurred. Stains or discoloration often originate from natural sources, including water with high concentrations of iron or other minerals, lichen/fungi, and mineral deposits on stone or concrete.

Stressed/Dead Fish

Stressed or dead fish are a possible indication that an illicit discharge has occurred. A fish kill may be caused by naturally low dissolved oxygen levels during summer, or from lakes or streams freezing over during the winter. They can also be caused by diseases, overpopulation, or polluted runoff. Nevertheless, if multiple dead or stressed fish are observed, refer to the IDDE Central Office Team for further evaluation.

Other Observations

Containers, including drums and buckets may be found abandoned along the roadside. These containers may contain hazardous materials and should be avoided. Do **NOT** open containers. Contact your Regional Hazardous Materials Manager and/or the Transportation Operations Center for assistance.



Foam may be observed while performing an initial field review. Many instances of foam are natural; foam is produced when air is introduced to the water through stream turbulence, waterfalls or waves breaking on the shore. It can also occur from the natural breakdown of algae or other plant material. This natural foam may appear white at first, but will generally turn brown over time.



Natural foam in creek – not an illicit discharge



White foam in ditch – this is manmade in origin and is considered an illicit discharge

Foam that is white in color and has a sweet or scented odor is likely to be manmade. Examples of these include detergents, soaps, and shampoos. Always check the surrounding area for possible sources when foam is observed.



When disturbed, an organic sheen will crack and break into many small platelets.

Do sheens always indicate an illicit discharge?

The presence of a bacterial sheen does not necessarily indicate an illicit discharge. Petroleum sheens are signs that petroleum has leaked or spilled, which indicates an illicit discharge has occurred or is occurring.

Sheen

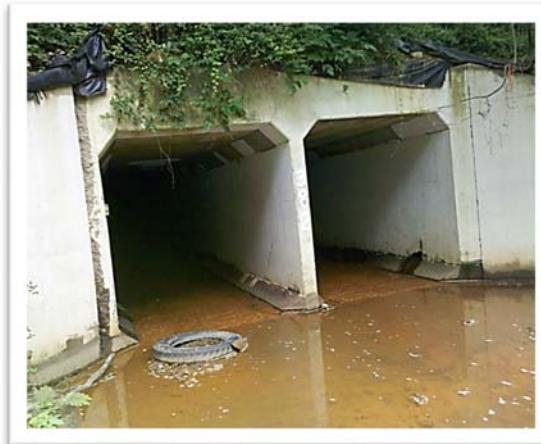
The appearance of a sheen can result from the presence of naturally occurring bacteria or petroleum contamination. The sheen's origin can be determined by touching it with a stick or other object. If the sheen breaks up into platelets or clumps, then it is due to the presence of naturally occurring bacteria in the water. If the sheen swirls (separates) and reforms (re-adheres), petroleum is present in the water. The pictures below are examples of a bacterial and petroleum sheen.



A petroleum sheen will swirl and reform itself rather than break apart.

Iron Bacteria

In areas throughout the state, an orange brown benthic growth may be observed in pipes, outfalls, and streams. This growth may appear as an orange, brown, red, yellow or grayish gelatinous slime. It can also appear as stains or as a “feathery” filamentous growth. A rainbow sheen may also be present. While unsightly, this growth is from iron bacteria that are naturally occurring in the soil and oxidize dissolved iron or manganese. The presence of iron bacteria does not typically indicate an illicit discharge.



Two examples of iron bacteria.
Note the rainbow sheen.



DETERMINING THE SOURCE OF THE ILLICIT DISCHARGE

If the discharge is found in the NVCC drainage system, the source of the discharge should be investigated by:

- 1) Tracking the illicit discharge to its point of entry into the NVCC storm sewer system.
- 2) At the point of entry look to see if the source can be identified; examples include a leaking drum used to store used oil or a PVC pipe from a residence that is discharging gray water. Do not enter private property to do this.
- 3) Take pictures and notes on observations and exact location where the pollutant enters NVCC's property.

At times, it may be difficult to determine the source of a discharge. The area around the discharge location should be visually surveyed to determine the:

- Location of outfalls and drainage pathways
- Upstream connections
- Potential upstream impacts (such as failing septic systems, etc.)
- Origins of pipes/culverts

By surveying the area upstream of a suspect discharge, the upstream connections as well as potential sources of discharges may be located.

An example of a source is a leaking septic system upstream impacting water quality downstream. Determining the origin of pipes and culverts can reveal unauthorized connections to NVCC's stormwater system as well. Unauthorized connections are often sources of illicit discharges as well as cases of trespassing on NVCC's property.

A reminder about safety:

At no time should anyone violate NVCC safety rules in the investigation of a polluted stormwater complaint, including entering confined spaces.

DOCUMENTATION OF SUSPECTED ILLICIT DISCHARGES

All reports of illicit discharges and any field investigations must be documented.

Photographs

Photographs should be taken during the investigation to support information in the Illicit Discharge Incident Tracking Sheet.

Photographs-

- (1) Provide a visual record of conditions observed,
- (2) Provide information to staff when further investigation is required, and
- (3) Document changes in the outfall conditions over time.

In addition to close-up detailed photos, also take photos that capture the outfall and surrounding area ("Big Picture"). A "Big Picture" photo provides a frame of reference for anyone who has to perform a follow-up investigation at the site.



"Close-up" of oily substance discharging from pipe.



"Big Picture" photo shows pipe and surrounding layout.

The close-up photo by itself provides good detail of the discharge; however it is difficult to determine the true scale or location of the issue through viewing this photo alone. The “Big Picture” photo gives the investigator perspective as to the nature and severity of the discharge.

The photos below provide another example of close-up and “Big Picture” photos.

The source of this illicit discharge was determined by following the smell and excessive vegetation in the ditch line to a sewer manhole. The two pictures were taken in the spring. The grass in the yard had not yet come out of winter dormancy, but the grass in the ditch line was three times as tall, and was much greener than the yard.



“Close-up” of ditch where a sewage smell was reported.



“Big Picture” of the ditch line and nearest connection.

COORDINATION OF ACTIONS FOLLOWING INITIAL FIELD REVIEW

Suspect illicit discharges discovered during routine operations, or those otherwise reported, are coordinated differently depending on the issue. A few examples are noted below:

- Gray water issues that are discovered during ditching or cross pipe replacements are referred to the locality,
- Oil coming from cars in the parking lot, or sediment entering the stream from on-site erosion would be corrected by college maintenance staff utilizing proper procedures.

An emergency response to a car accident on campus; the fuel tank is ruptured and leaking fuel into the drain

CLOSURE FOR SUSPECT ILLICIT DISCHARGES

After all field investigations are complete, the work order can be closed in one of the following ways:

1. Once the illicit discharge is verified and the information is referred to the appropriate local or state official for action, the work order can be closed. Please include the name of the local official and the date of the contact. Ideally, the local official should be contacted by telephone, followed up by an e-mail or other written correspondence.
2. If the illicit discharge is verified but the source or type of discharge cannot be determined, please enter the information related to the investigation into the tracking system and any photos that were taken.
3. If the illicit discharge is intermittent (*), the site must be visited a minimum of three times to attempt to observe the discharge. If the discharge is not observed during any of these visits, note the attempts and close the work order.
4. If, after consultation with the Faculty, Staff, Student, or Citizen making the report, the evidence of an illicit discharge cannot be found, the information related to the investigation should be entered into the tracking system. These incidents will be recorded in the IDDE tracking system and the investigation will be closed in accordance with established procedure.

***=An intermittent discharge is an illicit discharge that has been reported and verified, but upon further investigation is not flowing.**

Appendix D

Erosion and Sediment Control Law (4VAC 50-300-40)

4VAC50-30-20 Purpose.

The purpose of these regulations is to form the basis for the administration, implementation and enforcement of the Act. The intent of these regulations is to establish the framework for compliance with the Act while at the same time providing flexibility for innovative solutions to erosion and sediment control concerns.

4VAC50-30-30 Scope and Applicability.

- A. These regulations set forth minimum standards for the effective control of soil erosion, sediment deposition and nonagricultural runoff that must be met:
 - 1. In erosion and sediment control programs adopted by districts and localities under §10.1-562 of the Act;
 - 2. In erosion and sediment control plans that may be submitted directly to the Board pursuant to §10.1-563 A of the Act;
 - 3. In annual general erosion and sediment control specifications that electric and telephone utility companies and railroad companies are required to file with the Board pursuant to §10.1-563 D of the Act;
 - 4. In conservation plans and annual specifications that state agencies are required to file with the Department pursuant to §10.1-564 of the Act; and
 - 5. By federal agencies that enter into agreements with the Board.
- B. The submission of annual specifications to the Board or the Department by any agency or company does not eliminate the need for a project specific erosion and sediment control plan.
- C. These regulations must be incorporated into the local erosion and sediment control program within one year of their effective date.

4VAC50-30-40 Minimum Standards.

An erosion and sediment control program adopted by a district or locality must be consistent with the following criteria, techniques and methods:

- 1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 30 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

2. During construction of the project, soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.
3. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.
4. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.
5. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.
6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.
 - a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.
 - b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a twenty-five year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.
7. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.
8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.

9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
10. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.
11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.
12. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.
13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.
14. All applicable federal, state and local regulations pertaining to working in or crossing live watercourses shall be met.
15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.
16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
 - a. No more than 500 linear feet of trench may be opened at one time.
 - b. Excavated material shall be placed on the uphill side of trenches.
 - c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.
 - d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.

- e. Restabilization shall be accomplished in accordance with these regulations.
- f. Applicable safety regulations shall be complied with.

17. Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing activities.

18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

19. Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria:

- a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.
- b. Adequacy of all channels and pipes shall be verified in the following manner:
 - (1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or
 - (2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks; and

- (b) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and
- (c) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.

c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:

- (1) Improve the channel to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel bed or banks; or
- (2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances; or
- (3) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or
- (4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the plan-approving authority to prevent downstream erosion.

d. The applicant shall provide evidence of permission to make the improvements.

e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development of the subject project.

f. If the applicant chooses an option that includes stormwater detention he shall obtain approval from the locality of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.

- g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.
- h. All on-site channels must be verified to be adequate.
- i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.
- j. In applying these stormwater runoff criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.
- k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.

4VAC50-30-50 Variances.

The plan-approving authority may waive or modify any of the regulations that are deemed inappropriate or too restrictive for site conditions, by granting a variance. A variance may be granted under these conditions:

1. At the time of plan submission, an applicant may request a variance to become part of the approved erosion and sediment control plan. The applicant shall explain the reasons for requesting variances in writing. Specific variances which are allowed by the plan-approving authority shall be documented in the plan.
2. During construction, the person responsible for implementing the approved plan may request a variance in writing from the plan-approving authority. The plan-approving authority shall respond in writing either approving or disapproving such a request. If the plan-approving authority does not approve a variance within 10 days of receipt of the request, the request shall be considered to be disapproved. Following disapproval, the applicant may resubmit a variance request with additional documentation.

Appendix E

Virginia Community College System Annual Standards and Specifications

Erosion and Sediment Control Manual



Virginia Community College System Annual Standards and Specifications

Erosion and Sediment Control

12/1/2011

Facilities Management Department
James Monroe Building
101 N. 14 Street, 16th Floor
Richmond, VA 23219

INTRODUCTION

The Virginia Community College System's (The System) Erosion and Sediment Control Program is an integral component of the design, construction, maintenance, and management of its facilities and campuses. The System's Erosion and Sediment Control Annual Standards and Specifications (ESCASS) submittal has been developed to provide information regarding The System's implementation of this program in accordance with the Virginia Erosion and Sediment Control Law (§ 10.1-560 et. seq.), the Virginia Erosion and Sediment Control Regulations (4VAC50-30 et. seq.), the Virginia Erosion and Sediment Control Certification Regulations (4VAC50-50 et. seq.), the Virginia Stormwater Management Act (§ 10.1-603 et. seq.), and the Virginia Stormwater Management Program (VSMP) Permit Regulations(4VAC50-60 et. seq.) as related to municipal separate storm sewer systems (MS-4) and regulated construction activities.

The System's ESCASS shall apply to all planned design, construction and maintenance activities undertaken by The System, either by its internal workforce or contracted to external entities, where such activities are regulated by the Virginia erosion and sediment control Law and Regulations. During any inspections of The System's land disturbing activities by the DCR, EPA and other such environmental agencies, compliance with The System's approved ESCASS is expected.

The System's ESCASS is submitted to the DCR for review and approval on an annual basis. The System shall ensure that project specific plans are developed and implemented in accordance with these Standards and Specifications. This submittal constitutes The System's commitment to execute all provisions contained herein on its regulated land disturbing activities and land development projects. As such, this submittal will be made available and utilized as operational guidance by all appropriate personnel within DCR and the Virginia Community College System.

TABLE OF CONTENTS

1.0 ANNUAL STANDARDS AND SPECIFICATIONS ADMINISTRATION.....	3
2.0 ANNUAL STANDARDS AND SPECIFICATIONS PERSONNEL	3
3.0 ANNUAL STANDARDS AND SPECIFICATIONS IMPLEMENTATION.....	4
4.0 CONSTRUCTION PLAN REQUIREMENTS.....	5
5.0 INSPECTIONS.....	5
6.0 VARIANCES and EXCEPTIONS	5
7.0 LAND DISTURBING ACTIVITES.....	6

APPENDICES

Appendix – A: ESC Checklists

Appendix – B: ESC Inspection Forms

Appendix – C: Proposed Land disturbing Activities

Appendix – D: Past and Current Land-disturbing Activities

1.0 ANNUAL STANDARDS AND SPECIFICATIONS

- 1.1 All projects involving land disturbing activity subject to the Virginia Erosion and Sediment Control Law (§10.1-560 et seq. as amended), and the Virginia Erosion and Sediment Control Regulations (4VAC50-30 et seq. as amended) shall be bound by The System's Erosion and Sediment Control Annual Standards and Specifications (ESCASS).
- 1.2 The System's ESCASS approved by DCR, are composed of general specifications for erosion and sediment control. The general specifications for erosion and sediment control that apply to the land disturbing activities, listed in 1.1 above, include by reference the following:
 - 1.2.1 Virginia Erosion and Sediment Control Law (§10.1-560 et seq. as amended)
 - 1.2.2 Virginia Erosion and Sediment Control Regulations (4VAC50-30 et seq. as amended)
 - 1.2.3 Virginia Erosion and Sediment Control Certification Regulations (4VAC50-50 et seq. as amended)
 - 1.2.4 Virginia Erosion and Sediment Control Handbook, 1992, as amended
 - 1.2.5 Technical Bulletins, as amended, on DCR web site at www.dcr.virginia.gov
 - 1.2.6 Locality-specific Erosion and Sediment Control regulations, standards and/or specifications as issued by Counties, Cities, Towns or other municipal governing localities in which individual Colleges are located.
- 1.3 Site-Specific erosion and sediment control plans shall be prepared for all projects involving a regulated land disturbing activity as defined in §10.1-560. Site-specific erosion and sediment control plans shall be submitted to The System's designated consultant for review. Prior to starting a land disturbing project, as defined in §10.1-560, the project must have an approval issued by the Associate Vice Chancellor for Facilities or his designee.
- 1.4 The System may request DCR to grant a project specific variance to The System's ESCASS. All requested variances to be considered unapproved until written approval from DCR is received. Refer to Section 6.0 for more information on variances.

2.0 ANNUAL STANDARDS AND SPECIFICATIONS PERSONNEL

The System's designated consultant will review all erosion and sediment control plans and recommend plan approval or correction to the Associate Vice Chancellor for Facilities, based on the acceptability of the submitted plans. The Associate Vice Chancellor or his designee, hereinafter referred to as the Annual standards and Specifications Administrator(s), shall be the approving authorities for all erosion and sediment and control plans.

- 2.1 The Associate Vice Chancellor for Facilities or Annual Standards and Specifications Administrator(s) shall have overall management and coordination responsibilities for the ESCASS. The following personnel are assigned and/or delegated authority related to ensuring compliance with erosion and sediment control regulations on all of The System's projects: Associate Vice Chancellor for Facilities Management Services.

- 2.1.1 The Annual Standards and Specifications Administrator shall have management and coordination responsibilities for The System's ESCASS. This position shall be responsible for reviewing plans and inspecting projects for compliance with The System's ESCASS and applicable laws and regulations with an emphasis on erosion and sediment control components. The person shall be certified as a DCR certified program administrator, a DCR certified plan reviewer, or a Professional Engineer.
- 2.1.2 The Erosion and Sediment Control Inspector (ESC Inspector) shall have the responsibility for inspecting erosion and sediment control practices to ensure compliance with all applicable laws, regulations, and The System's ESCASS. This position shall be a DCR certified inspector, and can be an employee of the designated consultant or a staff member with the Virginia Community College System.
- 2.2 Certifications shall be in accordance with the Virginia Erosion and Sediment Control Certification Regulations (4VAC50-50 et seq. as amended)

3.0 ANNUAL STANDARDS AND SPECIFICATIONS IMPLEMENTATION

The erosion and sediment control plans shall comply with The System's ESCASS, the Virginia Erosion and Sediment Control Law (§ 10.1-560 et. seq.) and the Virginia Erosion and Sediment Control Regulations (4VAC50-30 et. seq.).

- 3.1 Submittals:
Erosion and sediment control plans and narratives shall be submitted to The System's designated consultant for review and approval prior to any land disturbing activities. The System's designated consultant shall have thirty (30) days to review the plan and provide written comments. Prior to commencement of a land disturbing project, the project must have received approval for the plan(s) from The System's Annual Standards and Specifications Administrator.
- 3.2 Inspections:
The ESC Inspector(s) is responsible for ensuring the contractor implements all necessary erosion and sediment control measures for the project in accordance with the project specific erosion and sediment control plans and other environmental commitments. Refer to Section 5.0 (Inspections) for more information on inspections.
- 3.3 Changes and Amendments to Approved Plans:
An approved plan may be changed by the Annual Standards and Specifications Administrator in the following cases:
 - 3.3.1 Where inspection has revealed the plan is inadequate to satisfy any applicable regulations, including local erosion and sediment control regulations or requirements; or
 - 3.3.2 When the person responsible for carrying out the approved plan finds that because of changed circumstances or for other reasons the approved plan cannot be effectively carried out, and proposed amendments to the plan, consistent with the requirements of this article, are agreed to by the plan approving authority and the person responsible for carrying out the plan.

Rewrites to an approved erosion and sediment control plan must be submitted in writing to The System's designated consultant for review and recommendation. Revisions shall not be considered approved until written notice is provided by the Associate Vice Chancellor for Facilities or Annual Standards and Specifications Administrator(s). Revision must comply with The System's ESCASS.

- 3.3.3 Should a locality have more stringent erosion and sediment control regulations than required by the Commonwealth of Virginia, The System shall follow the localities' requirements and regulations.

4.0 CONSTRUCTION PLAN REQUIREMENTS

- 4.1 Complete erosion and sediment control plans shall be provided in the project construction plans.
- 4.2 Minimum Standards 1 through 19 (4VAC50-30-40) shall be listed in the construction plans.
- 4.3 Construction sequence of operations shall be provided on the construction plans with staged implementation of erosion and sediment control measures for each phase. The area(s) which may be disturbed in each phase shall be set forth in the construction plans.

5.0 INSPECTIONS

Periodic inspections shall be conducted, at a minimum, every two weeks and within 48 hours of a rainfall event producing runoff. In addition, inspections shall be made during or immediately following initial installation of erosion and sediment controls and at the completion of the project.

The inspection report provided in Appendix C shall be used on each site inspection. All measures shown on the plan shall be inspected. All problems and violations shall be documented on the inspection report, with accompanying photographs. Inspection reports shall specify a required corrective action for each problem or violation noted and specifies a date the corrective action must be completed. Repeat violations not corrected within deadlines specified on the inspection report will be referred to DCR for enforcement action.

6.0 VARIANCES

Variances to regulations must ensure protection of off-site properties and resources from damage. Economic hardship is not sufficient reason to grant a variance from the requirements of this chapter. For a variance to become part of the project specific erosion and sediment control plans, a written variance request must be submitted by The Annual Standards and Specifications Administrator for approval by DCR. This request must include an explanation for the reason for requesting the variance and describe the specific site conditions necessitating the request. The request must also include a detailed description of the alternative erosion and sediment control practice and justification that the practice meets the intent of the Minimum Standard for which a variance is sought. (Ref. §4VAC50-30-50)

6.1 Erosion and Sediment Control Variance Request Policy and Procedures:

- 6.1.1 The System's Annual Standards and Specifications Administrator shall coordinate the review and approval of all requested variances with DCR's Erosion and Sediment Control Program representative(s). 6.1.2 . All requests for project specific variances to The System's ESCASS shall be sent by the design professional to The System's designated consultant and shall be accompanied by complete details and documentation, including justification for the requested variance and impacts associated with the variance.
- 6.1.3 The System's Erosion and Sediment Control Annual Standards and Specifications Administrator (or representative) will review the request and determine if the request should be sent to DCR for further consideration. If the Annual Standards and Specifications Administrator determines that the request should not be sent to DCR, then the request will be considered denied.
- 6.1.4 Variance requests will be sent by The System's Annual Standards and Specifications Administrator to the DCR Regional Office serving the locality in which the variance is requested and to the DCR Erosion and Sediment Control Program Manager and for review and approval, if determined to be appropriate.
- 6.1.5 All requested variances are to be considered unapproved until written approval from DCR is received.
- 6.1.6 All approved variances shall be listed in the General Notes section of the ESC plans for land disturbing activities and included in the Narrative.

7.0 LAND DISTURBING ACTIVITES:

7.1 Proposed Land Disturbing Activities:

A list of regulated land disturbing activities expected to be under contract during the next fiscal year shall be included in Appendix C. The list includes project location, estimated disturbed acreage by watershed, approximate start and completion date for each project, and a point of contact for each project. As additional land disturbing activities not included on the list come under contract, information regarding such activities shall be submitted on separate lists on a quarterly basis to DCR. Information on specific land-disturbing activities not included on this list will be provided to DCR no less than two weeks prior to the start of the activity.

Estimated disturbed acreage for individual projects must be reported in the following manner:

- (i) Linear Projects – beginning and ending coordinates, or
- (ii) Site Development – central to polygon or point coordinates.

Note: Coordinates may be reported by UTM (x, y, zone, datum) or state plane (x, y, zone, datum).

7.2 Past and Current Land Disturbing Activities:

A list of completed and actual regulated land disturbing activities either under contract or terminated during the previously referenced time period or previous year, whichever is greater, shall be included in Appendix D. The list includes project location, project start and completion date, and actual disturbed area.

7.3 Responsible Land Disturber:

The System's Annual Standards and Specifications Administrator shall notify the DCR Regional Office serving the locality in which the land-disturbing activity will take place of the project's designated Responsible Land Disturber (RLD). The notification shall be provided at least two weeks in advance of land-disturbing activity. The information to be provided shall include the name, contact information and certification number of the RLD.

Appendix F

Construction SWPPP Forms

**NORTHERN VIRGINIA COMMUNITY COLLEGE
STORMWATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT**

STABILIZATION CONTROLS

CAMPUS: _____

PROJECT: _____

INSPECTOR: _____

DATE: _____

STABILIZATION CONTROL	CONDITION	ADDITIONAL REMARKS

MAINTENANCE REQUIRED FOR STABILIZED CONSTRUCTION ENTRANCE:

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

MAINTENANCE PERFORMED ON: _____ CONFIRMED BY: _____

**NORTHERN VIRGINIA COMMUNITY COLLEGE
STORMWATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT**

STRUCTURAL CONTROLS

CAMPUS: _____

PROJECT: _____

INSPECTOR: _____

DATE: _____

STRUCTURAL CONTROL	CONDITION	ADDITIONAL REMARKS

MAINTENANCE REQUIRED:

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

MAINTENANCE PERFORMED ON: _____ CONFIRMED BY: _____

**NORTHERN VIRGINIA COMMUNITY COLLEGE
STORMWATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT**

RECORD OF MAJOR GRADING ACTIVITIES

CAMPUS:_____

PROJECT:_____

INSPECTOR:_____

DATE:_____

INSPECTOR'S QUALIFICATIONS:

DAYS SINCE LAST RAINFALL:_____

AMOUNT OF LAST RAINFALL _____ INCHES

MAJOR GRADING ACTIVITIES

ACTIVITY	ACTIVITY START DATE	DATE SINCE LAST DISTURBED	DATE OF NEXT DISTURBANCE	STABILIZED (YES OR NO)	STABILIZED WITH	CONDITION

COMMENTS:

**NORTHERN VIRGINIA COMMUNITY COLLEGE
STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT**

PLAN AMENDMENTS

CAMPUS: _____

PROJECT: _____

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:

REASONS FOR CHANGES:

CHANGES MADE BY: _____ ON OR BEFORE: _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE: _____

DATE: _____

Appendix G

Pollution Prevention and Good Housekeeping Procedures



Good Housekeeping/Pollution Prevention Program Manual and Integrated SWPPP

**Programmatic Overview of NVCC's
Good Housekeeping/Pollution Prevention Practices**

NVCC - Alexandria Campus
5000 Dawes Avenue
Alexandria, VA 22311

NVCC - Annandale Campus
8333 Little River Turnpike
Annandale, VA 22003

NVCC – Loudoun Campus
21200 Campus Drive
Sterling, VA 20164

NVCC – Woodbridge Campus
15200 Neabsco Mills Road
Woodbridge, VA 22191

TABLE OF CONTENTS

1.0	INTRODUCTION AND PURPOSE	1
2.0	GOOD HOUSEKEEPING TRAINING PROGRAM.....	3
3.0	DOCUMENTATION REQUIREMENTS	5
3.1	Annual Reporting to DEQ.....	5
3.2	Good Housekeeping/Pollution Prevention Program Updates and Modifications.....	5
4.0	DEVELOPING A STORMWATER POLLUTION PREVENTION PLAN.....	7
4.1	Defining an Illicit Discharge.....	7
4.2	Awareness during Daily Activities and Operations	8
4.3	Special Local Water Quality Concerns	8
4.4	Good Housekeeping/Pollution Prevention Inspections.....	9
4.5	NVCC's SWPPP Mapping	10
5.0	REPORTING PROCEDURES.....	12
6.0	COLLEGE SPECIFIC MAINTENANCE & OPERATIONAL PROCEDURES	13
6.1	Vehicle Washing.....	13
6.2	Vehicle Maintenance	14
6.3	Vehicle Storage	15
6.4	Fueling Areas.....	16
6.5	Dumpsters/Trash Cans-Solid Waste Collection and Recycling	17
6.6	Chemical Storage	18
6.7	Outdoor Loading	19
6.8	Outdoor Material Storage.....	20
7.0	GENERAL CAMPUS OPERATIONS	21
7.1	Power washing	21
7.2	Pesticide Application.....	22
7.3	Street Sweeping	23
7.4	Parking Structure Cleaning.....	24
7.5	Storm Drain Maintenance.....	25
7.6	Exterior Building Maintenance	26
7.7	Landscape Management.....	26
7.8	Street Parking and Maintenance	28
8.0	WASTE MANAGEMENT & DISPOSAL PROCEDURE.....	29
8.1	Aerosol Cans.....	29
8.2	Animal Carcasses.....	29
8.3	Antifreeze.....	29
8.4	Batteries	30
8.5	Treated Lumber.....	30
8.6	Empty Containers.....	30
8.7	E-Waste (Monitors and Computers)	31
8.8	Filters-Oil, Gas, Diesel, Paint	31
8.9	Fluorescent Lamps, HID, and Metal Halide Lights	32
8.10	Freon	32
8.11	Herbicides and Pesticides	32
8.12	Fluorescent Light Ballasts (PCB and Non-PCB).....	33
8.13	Mercury Switches and Equipment	34

8.14	Oil, Gas, and Diesel Waste	34
8.15	Paint Waste-Latex, Solvent Based.....	34
8.16	Parts Cleaners	35
8.17	Rags, Wipes, Absorbents.....	35
8.18	Scrap Tires.....	36
8.19	Salt Ponds and Storage	36
8.20	Salt Spreaders	36
8.21	Solid Waste-Trash	36
8.22	Surplus and Excess Property.....	37

APPENDICES

APPENDIX A: NVCC Points of Contact

APPENDIX B: SWPPP Inspection Forms

APPENDIX C: Contractor Oversight Form

APPENDIX D: NVCC Knowledge Check Quiz

APPENDIX E: NVCC Annual Training Plan Documentation Form

APPENDIX F: SWPPP Mapping

ACRONYMS

BMP	Best Management Practices
CCA	Chromated Copper Arsenate
DEQ	Department of Environmental Quality
EPA	Environmental Protection Agency
FLB	Fluorescent Light Ballasts
HID	High Intensity Discharge
NVCC	Northern Virginia Community College
MCM	Minimum Control Measure
MS4	Municipal Separate Stormwater Sewer System
MSDS	Material Safety Data Sheets
MVAC	Motor Vehicle Air-Conditioning
NPDES	National Pollutant Discharge Elimination System
PCB	Polychlorinated Biphenyls
PCP	Pentachlorophenol
RCRA	Resource Conservation and Recovery Act
SWM	Stormwater Management
SWPPP	Stormwater Pollution Prevention Plan
TCLP	Toxicity Characteristic Leachate Procedure
VSMP	Virginia Stormwater Management Program

1.0 INTRODUCTION AND PURPOSE

Everyday college staff engage in a variety of activities that have the potential to influence water quality. This manual presents the standard protocol which Northern Virginia Community College (NVCC) will utilize to implement its Good Housekeeping/Pollution Prevention Program. The manual provides a set of written procedures and Best Management Practices (BMPs), which are meant to ensure that campus operations are managed in ways that will minimize pollutants from entering NVCC's small municipal separate storm sewer system (MS4). The written procedures are required to be developed, implemented, and updated by NVCC as a condition of the college's MS4 General Permit (MS4 Permit), the permitting mechanism designed to prevent pollutants from entering water bodies through stormwater runoff. The MS4 Permit authorizes stormwater discharges from MS4s to surface Waters in urbanized areas of the Commonwealth of Virginia.

The MS4 program is part of the Federal National Pollutant Discharge Elimination System (NPDES), which is authorized through the Clean Water Act (See Figure 1). With delegation from the Environmental Protection Agency (EPA), MS4 permits in Virginia are issued through Virginia Pollutant Discharge Elimination System (VPDES) and administered by the Virginia Department of Environmental Quality (DEQ). To ensure compliance with Good Housekeeping/Pollution Prevention requirements of the MS4 Permit, NVCC is required to perform the procedures outlined in this manual.

NVCC's Good Housekeeping Program includes six distinct components:

- **Training** – Procedures to train applicable field personnel related to the IDDE Program are discussed in Section 2.0 of this manual.
- **Documentation** – Procedures to document all efforts related to the Good Housekeeping/Pollution Prevention process are outlined in Section 3.0 of this manual.
- **Good Housekeeping/Pollution Prevention Inspections** – Procedures for inspection of the NVCC campus with stormwater pollution prevention plan (SWPPP) mapping is outlined in Section 4.0 of this manual.
- **College Specific Maintenance & Operational Procedures** – Procedures for daily maintenance and operational activities observed at the NVCC campus are outlined in Section 6.0 of this manual.
- **General Operational Procedures** – Procedures for general operations that are likely or possible based on typical college campus maintenance needs are outlined in Section 7.0 of this manual.
- **Waste Management & Disposal Procedures** – Procedures for waste management and disposal of pollutants are outlined in Section 8.0 of this manual.

For NVCC to demonstrate compliance to the conditions of the MS4 Permit, documentation of Good Housekeeping/Pollution Prevention activities performed is paramount. Section 3.0 describes the appropriate documentation procedures for activities described in the Manual.

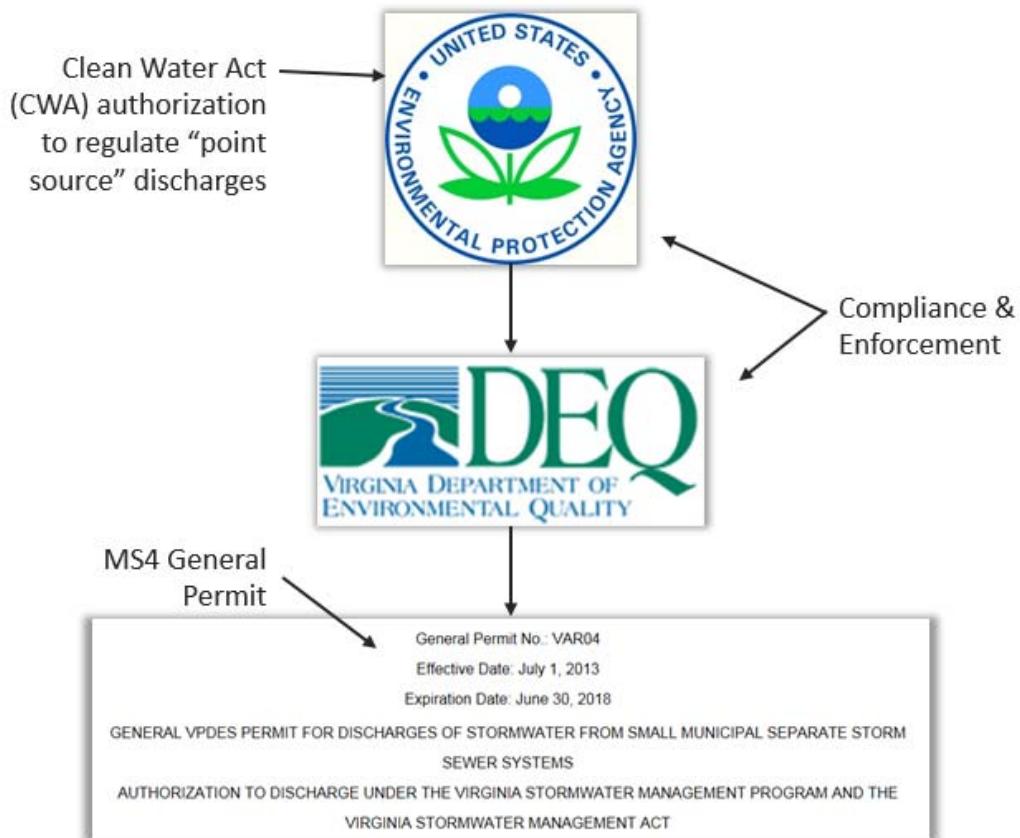


Figure 1. Generalized depiction of the regulatory framework for the MS4 permit.

2.0 GOOD HOUSEKEEPING TRAINING PROGRAM

The MS4 Permit requires NVCC to provide **annual training** to applicable field personnel identified by the MS4 Program Manager who play a role in the recognition and reporting of Good Housekeeping/Pollution Prevention. As part of NVCC's Program, this manual serves as training material for annual training to meet the permit requirement. Note that training is also required for the Illicit Discharge Detection and Elimination (IDDE) Program to applicable employees and NVCC provides a separate manual as training material for those activities.

The written procedures herein serve as the foundation of a successful Good Housekeeping/Pollution Prevention Program that helps NVCC achieve MS4 Permit compliance. However, implementation and documentation of the procedures are critical for achieving the Good Housekeeping/Pollution Prevention Program **goal to eliminate non-stormwater discharges** to NVCC's storm sewer system and ultimately receiving waters. As referenced throughout this manual, the Good Housekeeping/Pollution Prevention Program relies on supplemental materials to assist with implementation and documentation of the Good Housekeeping/Pollution Prevention Program. Applicable field personnel identified for Good Housekeeping/Pollution Prevention training should be familiar with each Section of this Manual and the supplemental materials provided in the Appendices of this Manual, which include:

- **NVCC Point of Contact for Reporting** – Provides a list of contact information for Good Housekeeping/Pollution Prevention. The guide is located in Appendix A.
- **Good Housekeeping/Pollution Prevention Inspection Form** – This form is used with annual SWPPP inspections. It also includes a Findings & Followup Form to be completed by the NVCC MS4 Program Manager or designee. These documents can be found in Appendix B.
- **Contractor Oversight Form** – This form is used when contractors perform work on the campus that has the potential to contaminate stormwater and will help document compliance with pollution prevention/good housekeeping practices. It can be found in Appendix C.
- **Good Housekeeping/Pollution Prevention Training** – Appendix D and E are intended for use by the NVCC MS4 Program Manager or designee and MS4 Program Administrator, for training documentation purposes. For the applicable field personnel identified in Appendix E, the following training is required to be completed each year:
 - Attend training session. The session will be scheduled by the NVCC MS4 Program Manager or designee with proper notice provided to each applicable field personnel.
 - Completion of the 'Knowledge Check' quiz in Appendix D at the completion of the training session. The quiz will be completed at the end of the training session and provided to the trainer.
- **SWPPP Mapping** – The SWPPP map provided with this manual provided in Appendix F is intended to relate on-the-ground field operations to this Manual, meeting the MS4 Permit requirements

Section II B.6.b.4. A copy of this map should be accessible to all employees that play a role in Good Housekeeping/Pollution Prevention. In addition, the map should be utilized during field inspections to provide guidance where inspections will be necessary.

In addition to the documentation above, NVCC will incorporate and reference the **Nutrient Management Plan (NMP)** into training. This plan includes conservative practices for the use of nutrients such as fertilizer to effectively provide nutrients to plants while protecting against adverse effects.

At the completion of each annual training to applicable field personnel in recognition and reporting of illicit discharges. The Knowledge Check in Appendix D should be completed by each individual. Upon completion, Appendix E should be completed by the MS4 Program Manager for documentation purposes.

3.0 DOCUMENTATION REQUIREMENTS

The Good Housekeeping Findings & Follow-up Form is shown in Appendix B of this Manual. This Form demonstrates that any necessary actions found during a SWPPP inspection were appropriately addressed related to Good Housekeeping/Pollution Prevention. For each identified discharge the following is documented:

- ✓ Date of incident;
- ✓ Material discharged, released, or spilled; and
- ✓ Quantity discharged, released or spilled.

The resolution of a discharge may be a referral to and acceptance by the VDEQ or local government for action; however, this action must be properly documented by NVCC. If the discharge is determined to be a permitted or allowable discharge, then the final action will be documented and the information will be included on the corresponding NVCC Findings & Follow-up Form. This will enable NVCC to access this information if future requests for information are received concerning the discharge in question.

3.1 Annual Reporting to DEQ

NVCC must annually report to the DEQ information pertaining to its Good Housekeeping/Pollution Prevention efforts. The information is included in the overall MS4 annual report due October 1st of each year. Information required for reporting includes:

- (1) A summary report on the development and implementation of the daily operational procedures;
- (2) A summary report on the development and implementation of the required SWPPPs;
- (3) A summary report on the required training, including a list of training events, the training date, the number of employees attending training and the objective of the training.

3.2 Good Housekeeping/Pollution Prevention Program Updates and Modifications

Modifications to the Good Housekeeping/Pollution Prevention Program may occur as part of an iterative process to protect water quality. Updates and modifications to the Program may be made in accordance with the following procedures:

- Adding (but not eliminating or replacing) practices to the Good Housekeeping/Pollution Prevention Program outlined in this manual may be made by NVCC at any time. Additions shall be reported as part of the annual report.
- Updates and modifications to the Good Housekeeping/Pollution Prevention Program described in this manual are permitted provided that the updates and modifications are done in a manner that:
 - Is consistent with the conditions of the General Permit;
 - Follow any public notice and participation requirements established in the General Permit; and

- Are documented in the annual report.
- Replacing, or eliminating without replacement, any ineffective or infeasible strategies, policies, and practices described in this manual with alternate strategies, policies, and BMPs may be requested at any time. Such requests must include the following:
 - An analysis of how or why the practices, strategies, or policies are ineffective or infeasible, including cost prohibitive;
 - Expectations on the effectiveness of the replacement practices, strategies, or policies;
 - An analysis of how the replacement BMPs are expected to achieve the goals of the practices to be replaced;
 - A schedule for implementing the replacement practices, strategies, and policies;
 - An analysis of how the replacement strategies and policies are expected to improve NVCC's ability to meet the goals of the strategies and policies being replaced; and
 - Requests or notifications must be made in writing to the Department and signed by a principle executive officer or a duly authorized representative. The duly authorized representative must have overall responsibility of the campus operations and written authorization must be provided to the Department.
 - NVCC follows the public involvement requirements identified the General Permit.

4.0 DEVELOPING A STORMWATER POLLUTION PREVENTION PLAN

Under the MS4 Permit, NVCC is required to develop and implement a stormwater pollution prevention plan (SWPPP) for the campus; that is, identify areas with a high potential of generating pollutants or being sources of illicit discharges and provide procedures to eliminate and/or prevent the sources from entering the MS4. At the NVCC campus, these can be related to operations and maintenance activities in specific areas, such as a maintenance yard, or they can be general operations activities that might occur at different locations. Once these areas and activities are identified, staff can be more aware of potential sources of pollutants, make annual inspections of facilities and operations, and provide reporting and follow-up documentation as needed.

4.1 Defining an Illicit Discharge

An illicit discharge can be: 1) a measurable flow from a storm drain during dry weather that contains pollutants or pathogens; 2) have a unique frequency, composition, and mode of entry in the storm drain system; 3) caused when the sewage disposal system interacts with the storm drain system; and 4) discharges from pollutants from specific source areas and operations known as “generating sites.” Generating sites are identified this Manual.

For the purposes of NVCC’s Good Housekeeping/Pollution Prevention Program, the VSMP regulation definition for an illicit discharge is generalized as:

Illicit Discharge - Any discharge to an MS4 that is not composed entirely of stormwater, except discharges specifically identified in the Virginia Administration Code when determined by NVCC not to be a significant contributor of pollutants to the MS4.

Most sources of an illicit discharge on the NVCC campus are likely to originate from a generating site or activity, such as a vehicle washing area or maintenance area. These could result from daily practices or from a specific spill incident. Table 1 provides source pollutants that could be generated from areas of the campus.

Table 1. Examples of source pollutants of an illicit discharge.

<ul style="list-style-type: none">• Automotive fluids (oil, fuel, antifreeze)• Cooking oil and grease• Solvents• Paints• Chemical cleansers (detergents, soaps)• Improperly applied pesticides/herbicides• Improperly managed salts	<ul style="list-style-type: none">• Landscape waste (grass clippings, etc.)• Improperly applied fertilizer• Sediment• Vehicle wash water• Sanitary sewer wastewaters• Dumpster leachate• Trash
---	--

The regulations do have exemptions for some non-stormwater discharges that would not be considered an illicit discharge if not a significant contributor of pollutants to the campus's MS4. Table 2 includes discharges relevant to NVCC that are not a significant contributors of pollutants and are not considered illicit discharges. If there is uncertainty of the source or constituents within an observed discharge, the NVCC MS4 program Administrator should be contacted immediately so a determination can be made. Points of contact for reporting an illicit discharge are in Appendix A.

Table 2. Examples of sources that are not an illicit discharge.

• Fire-fighting activities	• Air condition condensate
• Water line flushing	• Footing or foundation drains
• Landscape/lawn irrigation	• Springs
• Diverted stream flows	• Water from crawl space pumps
• Rising groundwater	• Dechlorinated swimming pool wastewater
• Uncontaminated groundwater infiltration	• Discharges from potable water sources
• Uncontaminated pumped groundwater	• Flows from riparian habitats and wetlands

Additional detail for identification of an illicit discharge is provided in the *NVCC Illicit Discharge Detection and Elimination Program Manual*.

4.2 Awareness during Daily Activities and Operations

Potential illicit discharges can be identified and removed prior to entering the storm sewer with the identification and appropriate follow-up of pollutants exposed to precipitation, and subsequently stormwater runoff. NVCC maintenance and operations employees are in the best position to identify these pollutants such as those identified in Table 1. Figure 2 provides several examples of the observations and actions that could prevent an illicit discharge. If the observer is not qualified or appropriately trained to take the appropriate action, or if illegal dumping is observed, notify the NVCC MS4 Program Manager or designee.

<u>Observation</u>	<u>Action</u>
Uncovered dumpster	→ Cover dumpster
Uncovered container	→ Store container indoors
Oil/hydraulic fuel on ground	→ Clean & dispose of properly

Figure 2. Example daily observations and subsequent actions can prevent an illicit discharge.

4.3 Special Local Water Quality Concerns

NVCC's MS4 ultimately discharges to receiving waters that have been identified by the DEQ to not meet water quality standards. Subsequent studies, called Total Maximum Daily Load (TMDL) studies, have been performed by DEQ. The TMDL studies identify specific pollutants causing the impairments to the

receiving waters and designate the amount of the pollutant the receiving water can assimilate to achieve water quality standards. A required reduction of the pollutant is typically assigned to the MS4s that drain to the impaired segment of the water body. It is important that NVCC maintenance and operations employees be aware of these special pollutants shown in Table 3.

Table 3. Special pollutants of concern.

Campus	TMDL	Pollutants of Concern
All	Chesapeake Bay	Nitrogen Phosphorous Sediment
Woodbridge	Neabsco Creek and Chesapeake Bay	Nitrogen Phosphorous Sediment E. coli

Nitrogen & Phosphorous considerations: NVCC utilizes its Nutrient Management Plan when applying nutrients on campus. This plan includes conservative practices for the use of nutrients such as fertilizer to effectively provide nutrients to plants and turf while protecting against adverse effects. In addition, NVCC utilizes good housekeeping practices and a general sense of awareness for possible nutrient sources in day to day operations.

Sediment considerations: Possible sediment sources include, but are not limited to, construction and maintenance activities, soil erosion and stockpiles of sediment laden material. Proper source controls (i.e. silt fence, gutter buddies, etc.) should be utilized to prevent transportation of sediment. In addition, NVCC should utilize good housekeeping practices and a general sense of awareness for possible sediment sources in day to day operations.

4.4 Good Housekeeping/Pollution Prevention Inspections

Inspection is a key item to NVCC's successful Good Housekeeping/Pollution Prevention. The inspection process is important because it identifies any items or areas of concern where pollutants have potential to be exposed to precipitation or be conveyed to waterways. If a potential issue is identified during an inspection, corrective action can immediately be taken to reduce the risk of pollution or contain and existing spill before it reaches the stormwater system.

Inspection forms for current activities on the NVCC campus are in Appendix B. Operations staff must use these forms during inspections as part the comprehensive site evaluation that is required by the MS4 Permit. They serve not only as a means to identify potential issues, but also as records that show NVCC is

actively working to prevent illicit discharges in conformance with Minimum Control Measure 6 of the Permit.

The MS4 Permit requires an annual comprehensive site evaluation for each campus; however, because Good Housekeeping/Pollution Prevention plays an integral part in day-to day operations and is often the first means to prevent pollutants from entering waterways, it is recommended that facilities be visually inspected on a regular basis. The operations staff responsible for the inspection should use the SWPPP Mapping and campus inspection form together during annual site inspections. Completed inspection forms should be kept on record for three years.

Sections 6.0 and 7.0 outline critical items relevant to Good Housekeeping/Pollution Prevention along with Best Management Practices that should be employed. These sections provide a means to review relevant information prior to a site inspection, a platform on which to conduct training, and as a reference for corrective action in the case that a potential pollution issue is found.

4.5 NVCC's SWPPP Mapping

The Stormwater Pollution Prevention Plan (SWPPP) map provided with this manual in Appendix F is intended to relate on-the-ground field operations with Maintenance and Operational Procedures identified in Sections 6 & 7 of this Manual. The mapping is based on a field investigations where the NVCC campus was evaluated to determine operations and activities that could potentially generate pollutants.

This mapping should be utilized during Good Housekeeping/Pollution Prevention inspections. The front shows the campus and several important components associated with pollution prevention. The MS4 stormwater pipes and inlets are indicated, along with their direction of flow toward the outfall, which is indicated by a yellow triangle. Receiving surface waters are also shown, if on the property. Red circles indicate locations, or generating sites, where specific operations occur that could potentially be sources of pollutants. These areas are numbered sequentially, such that a person can efficiently walk the site to perform inspections. An example of what is on a map is shown below in Figure 3.



Figure 3. Example of SWPPP Mapping with area noted as potential sources of pollutants.

The back of the SWPPP Mapping identifies the area or activity where the pollutants could possibly be generating, summarizes the applicable best management practice, lists the possible pollutants, and identified controls available for addressing sources of pollutants. A reference to the appropriate subsection of the Good Housekeeping/Pollution Prevention Manual is also provided, and the staff conducting the inspection should refer back to the Manual for more information. An example is illustrated in Figure 4.

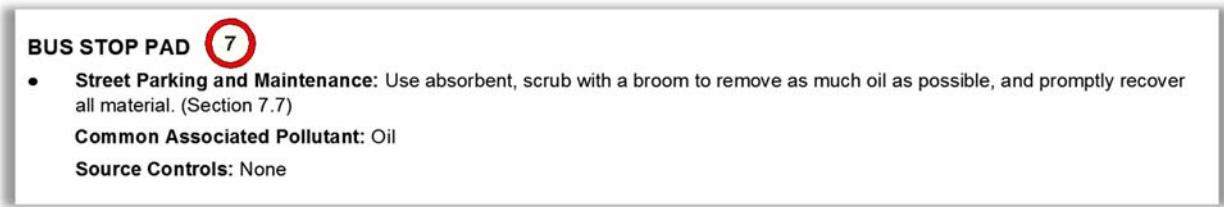


Figure 4. Example of activity identifier on SWPPP Mapping.

5.0 REPORTING PROCEDURES

NVCC maintenance and operations employees are the first line of defense for preventing sources that could contribute to an illicit discharge. Actions that are taken to remove potential sources of an illicit discharge do not need to be reported unless it is suspected an illicit discharge has previously occurred. In this case, the employee needs to report the concern to the MS4 Program Manager or designee within 1 business day, who will then document the report.

An illicit discharge or potential source for an illicit discharges may also be reported by other individuals that are not trained or authorized to perform necessary actions, such as reports from students, faculty, staff, or contractors. These individuals may recognize a potential illicit discharge after learning about pollution in stormwater runoff through NVCC's public education and outreach efforts, or by other means. The NVCC stormwater webpage directs these individuals to contact the MS4 Program Manager or designee, who will subsequently perform the appropriate follow-up action and provide documentation. If an employee is otherwise notified, the appropriate action should be taken and the MS4 Program Manager or designee shall be notified. Figure 4 summarizes this procedure.

VDOT and the campus-associated counties and municipalities have interconnected MS4's with NVCC, meaning there is stormwater being conveyed to and from NVCC property. Any report from either interconnected MS4 of a potential illicit discharge originating from a NVCC campus should be immediately directed to the MS4 Program Manager or designee for investigation and documentation.

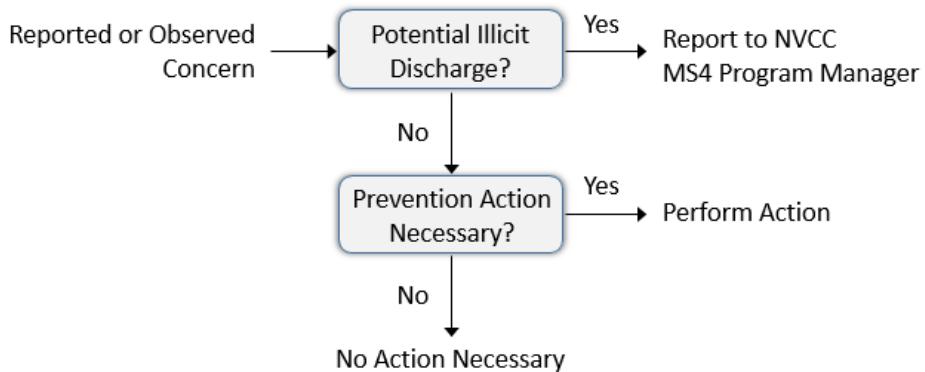


Figure 5. Reporting procedures for NVCC field staff.

6.0 COLLEGE SPECIFIC MAINTENANCE & OPERATIONAL PROCEDURES

The following sections review common procedures and operations that take place at specific locations at NVCC campus. These operations may be potential sources of pollutants that can enter and contaminate the stormwater system and the receiving downstream waters. An overview of risk factors associated with each operation is provided, in addition to suggested Best Management Practices to help reduce the potential for contamination.

6.1 Vehicle Washing

Overview

Improper vehicle washing can introduce a number of compounds into the MS4, including solvents, grease, sediment, and petroleum products as point source pollution (illicit discharge). Washing vehicles near any part of the MS4, including ditches or other conveyances that lead to the storm sewer, may cause these compounds to pollute a nearby water body. In order to avoid this, wash vehicles away from the storm sewer system and areas such as mixing pads, staging areas, or other surfaces where vehicle washing is not permitted.

Best Management Practices

- Wash in designated wash bays that drain directly to the sanitary sewer
- Use commercial car washes for typical fleet vehicles
- Wash vehicles on pervious surfaces, such as grass or gravel (only with water- no soap, detergents, waxing, etc.)

6.2 Vehicle Maintenance

Overview

Vehicle maintenance practices involve a number of solvents, petroleum products, and other toxic compounds that must be stored and handled in accordance with procedures that prevent potential contamination of the MS4 or associate water bodies.

Best Management Practices

For general maintenance:

- Vehicles shall be maintained inside and under cover, with the exception of emergency maintenance not involving fluids.
- Vehicles that are leaking any fluids shall be put inside and under cover unless a drip pan can be utilized and emptied into the designated hazardous waste containers.
- Water used for tire leak detection or other process shall be disposed of in the sanitary sewer only.
- Remove leaking vehicles from service until repaired.
- Store leaking batteries in a secondary container.
- Use detergent-based or water-based cleaning systems instead of organic solvents and degreasers.

For vehicle and equipment fueling:

- Always fill tanks and containers in such a manner as to avoid dripping
- Avoid “topping off” or filling beyond the normal fill capacity
- Fueling shall be supervised and never left unattended
- Fuel vehicle and equipment on a hard surface, down gradient and at the farthest practical distance from any storm drain, conveyance, or water body.

For leaks, drips, and spills:

- Clean thoroughly and promptly.
- Apply absorbent on the spill area and dispose of the waste properly. Never hose down the affected area.
- Prevent fluids from entering the storm sewer by diverting any flows

6.3 Vehicle Storage

Overview

Vehicles are stored at the college due to seasonal operations (snow removal), infrequent use, etc.

Vehicles are potential sources of pollutants into the MS4 and other bodies of water, and therefore must be stored appropriately.

Best Management Practices

- Store vehicles inside or under cover, if possible.
- If vehicles must be stored outside, locate vehicles away from storm drains should leaking occur.
- Vehicles that are leaking any fluids should be put inside and under cover unless a drip pan can be utilized and emptied into the designated hazardous waste containers.
- Ensure that the streets and parking areas are free of sediment and debris. Street sweep or clean as required.
- Regularly inspect vehicle storage areas.
- Clean up any observed spills and address the source of the leaking pollutant(s).

6.4 Fueling Areas

Overview

NVCC utilizes a number of vehicles for campus operations and maintenance, in addition to other gas-powered equipment. Fuel for fleet vehicles and equipment presents a particularly hazardous set of toxic compounds that can seriously impair the water quality of receiving water bodies if spilled or leaked. Extra care must be taken to ensure that staff are adequately trained to avoid spills, clean them if they do occur, and prevent them from entering the storm sewer or any receiving water bodies. Other best management practices can also be employed to reduce the risk, in addition to other applicable permits governing storage tanks.

Best Management Practices

- Refuel vehicles and equipment offsite at locations with designated fuel areas
- Onsite refueling locations should be designed to prevent runoff and spills by having an impervious surface graded away from storm sewer inlets.
- Fuel stations should be covered with an area at least as large as the grade break or fuel dispensing area, and this cover should direct stormwater to a perimeter drain or away from the area.
- Install oil control devices in storm drains or basins that may receive contaminated runoff.
- Install vapor recovery nozzles to reduce drips and vapor.
- Develop a spill prevention plan that standardizes training and procedures related to use, storage, and potential spills of fuel. Additionally, provide equipment to both clean up the spill and prevent contamination of the storm sewer.
- Routinely inspect refueling structures and equipment for proper function and condition, as well as any signs of corrosion or potential failure. Above ground tanks should be inspected periodically by a professional.

6.5 Dumpsters/Trash Cans-Solid Waste Collection and Recycling

Overview

Dumpsters and trash cans are potential producers of illicit discharges if polluted materials leak and travel to the storm sewer or receiving water bodies. However, as with other waste and chemical storage, proper storage and careful handling will minimize exposure. Unlidded dumpsters and trash cans allow rainwater to mix with the waste inside and produce polluted leachate that could then spill during unloading. Dumpsters and trash cans must also remain in good condition where nothing can leak out of the bottom and possibly contaminate the storm sewer and streams.

Best Management Practices

- Provide only covered containers, rather than those with completely open tops, to reduce the amount of rainwater entering the container and the potential for leaking during normal use.
- Place trash containers, recycling containers, and cigarette butt containers in high pedestrian traffic areas, common areas, entrances to buildings, and sidewalk entries from parking lots. Increase the number of containers if overfilling is a problem.
- Install adequate number and size of temporary trash receptacles for special events.
- Provide adequate containers at building rear and services entrances so trash materials from within the buildings are immediately transferred to covered containers during routine cleaning.
- If collected trash materials are hauled using a vehicle, install an impermeable liner in the cargo area to contain any leakage during transfer. Wash any leakage in designated wash areas that drain directly to the sanitary sewer.
- Provide a secure area for dumpster loading and unloading to prevent tampering, unwanted dumping, and damage from other vehicles.
- Routinely inspect dumpster and trash can lids and other surfaces for deterioration or damage that may cause exposure to stormwater or allow leakage.
- Provide staff training to ensure only proper materials are loaded into the dumpster to help avoid accidental mixing of chemicals or introduction of corrosive materials.
- If any leaks are detected, install berms or other devices to ensure nothing flows into the storm sewer system or receiving waters.

6.6 Chemical Storage

Overview

NVCC has a number of chemicals onsite that are related to routine cleaning and maintenance, and contractors possessing chemicals and chemical-dispensing equipment may also be on campus. All chemicals that could potentially contaminate stormwater and local waterways should be clearly marked and stored in secure locations.

Best Management Practices

- Plainly label containers that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if a spill occurs.
- Store materials away from high traffic areas and on structures that keep them from coming into contact with the floor.
- Storage areas, loading and unloading areas should be covered or enclosed to reduce potential contact with stormwater.
- Storage spaces and containers should be routinely checked for leaks or signs of deterioration.
- Provide contract language that requires contractors to accommodate safe storage of chemicals and hazardous materials and to be responsible for safe handling and cleanup of any potential spills.

6.7 Outdoor Loading

Overview

Outdoor loading areas are potential sources of illicit discharge if polluted materials leak during transport to/from designated loading areas. With proper storage and careful handling, it is possible to minimize exposure to stormwater at loading areas.

Best Management Practices

- If possible, perform outdoor loading under a tarp or covered structure.
- Preferably load material in dry weather.
- Avoid positioning loading areas near storm drains.
- Grade or berm the loading area so that stormwater drains to a dead-end connection or sanitary sewer, rather than a stream or storm drain.
- Train employees in spill cleanup so that leaks and spills are addressed in a timely fashion.

6.8 Outdoor Material Storage

Overview

NVCC has material storage areas outside, and houses substances such as grease, paints, detergents, metals, and bulk materials, such as mulch, in these outdoor locations. These materials must be stored and handled in accordance with procedures that prevent potential contamination of the MS4 or associate water bodies.

Best Management Practices

- Store all materials in appropriately labeled containers, if applicable.
- Avoid placing materials near storm drains.
- Make sure all outdoor storage containers have lids that are kept closed to prevent stormwater contamination.
- If materials are too large to store in containers, cover with a tarp and appropriately label the area to indicate the stored materials that are present.
- Provide perimeter controls for erodible stockpiles of materials such as mulch, sand, and gravel to prevent migration into the stormwater system.
- Routinely inspect outdoor material storage areas for leaking or corrosion of stored substances.
- Clean up all migrating materials upon discovery and repair the containment of the migrating pollutant to prevent potential contamination of stormwater and streams.

7.0 GENERAL CAMPUS OPERATIONS

In addition to location-specific operations listed above, there are other typical maintenance activities that can occur at different locations across the NVCC campus. Though not typically associated with pollution, these activities can create concentrations of contaminants that can enter the storm drain system. The following provides a summary of each operation and how maintenance staff can minimize risks.

7.1 Power washing

Overview

Power washing can concentrate organic sediment, precipitates, surface material, and cleaning solutions into wash water, which is characterized as an illicit discharge if it enters the MS4. Power washing water, cleaning agents, and other compounds should not enter the storm sewer system or water bodies. Care should be taken to prohibit the wash water from flowing into the storm sewer, including roof drains, downspouts, and any other conveyances leading to them.

Best Management Practices

- Identify storm drains and possible conveyances to storm drains prior to commencing with cleaning or washing, and take measures to prevent waste water from entering them.
- Use dry cleanup methods to remove debris prior to washing surfaces.
- Determine where waste water may pool and vacuum up or allow it to evaporate.
- Water not containing chemicals or cleaning agents may be allowed to infiltrate in grass or gravel areas. Waste water containing chemical pollutants must be captured and disposed of in the sanitary sewer. Suspended solids and oils must be removed from the wastewater using booms, absorbent pads, or other devices.
- Apply minimal water and prioritize dirty areas rather than cleaning or pressure washing an entire building.

7.2 Pesticide Application

Overview

Grounds and building maintenance crews occasionally use pesticides and herbicides in routine operations, and the mixing and loading of applications into equipment is often in the same areas where fueling and maintenance occurs. Consequently, these are the areas where an accidental discharge into the MS4 is likely to occur. Care should be taken to properly store, handle, and apply these chemicals in much the same manner as other hazardous materials, and only adequately trained staff should be responsible for their use.

Note: Applications of pesticides and herbicides over waters of the state or at water's edge are governed under a separate NPDES permit from DEQ.

Best Management Practices

For Application:

- Apply herbicides and pesticides only after other, non-chemical approaches fail
- Determine which product are the most useful and least environmentally harmful for a given situation and use sparingly and as directed by the manufacturer.
- Use chemical products only during weather conditions appropriate for the application and that will not potentially mix with stormwater in a rain event.
- Avoid applying chemicals within 5 feet of pavement, 25 feet of storm drain inlets, or 50 feet from a water body.

Spill Prevention:

- Spray equipment must be emptied of solutions before the loading of vehicles, transportation, and storage of equipment.
- Washwater from application equipment must be disposed of in the sanitary sewer and any leftover material resealed in a container or disposed of at a hazardous waste collection location.
- Store materials in a secure location and keep containers clearly labeled

7.3 Street Sweeping

Overview

Streets and parking areas are prone to collect and concentrate significant amounts of materials that contribute to polluted runoff into storm sewer systems and water bodies. Sediment, debris, trash, automotive fluids, road salt, and trace metals can be minimized by such practices as street sweeping. Smaller equipment can also be used in other hardscape areas. In addition to reducing the chance and severity of polluted discharges into downstream waters, the practice also extends the useful life of stormwater basins by reducing the sediment load.

Best Management Practices

- Establish a schedule that best addresses the rate of accumulation of materials on pavement and hardscapes, and adjust the schedule after significant events such as snowfall (sand, salt).
- Materials collected during cleaning activities should be disposed of at an offsite landfill, and material recovery should be limited to the volume and weight appropriate for direct transport to such facilities
- Materials collected during cleaning activities should not be temporarily stored onsite.

7.4 Parking Structure Cleaning

Overview

Parking structures can accumulate the same materials associated with parking lots, roads, and vehicle storage areas. Automotive lubricants, oils, and antifreeze, even in covered areas of a garage, may be swept into the storm drain system or tracked elsewhere by way of stormwater or vehicle tires. An additional, larger concern with parking structures is the need to apply sand and salt more often than regular parking lots, as the structure will freeze before the ground. These materials can accumulate in significant amounts and pose a serious threat to local waterways, clog stormwater inlets, as well as increase the sediment load to stormwater basins. Regular parking structure cleaning will extend the useful life of stormwater basins and reduce accumulation in inlet sumps and downstream transport.

Best Management Practices

- Contract a local street sweeping service provider to clean accessible areas of the parking structure. Use smaller, more portable machines to access tighter spaces. Clean remaining areas with vacuum recovery surface cleaners, rather than a standard power washers.
- If vacuum recovery cleaners cannot be employed, all power washing material and wash water must be prevented from entering the stormwater system. Use a series of dams, berms, and diversions to isolate water and material for recovery. Water may be allowed to evaporate, at which point leftover material can be collected. Only wash water free of oils, grit, and material that could clog pipes should be disposed of in the sanitary sewer.
- Materials collected should be directly transported to an offsite landfill.
- Establish a schedule that best addresses the rate of accumulated salt and sand on parking structures, and amend the schedule as needed after precipitation events.

Add bullet about absorbents for oils accumulated, then sweep and dispose

- Ensure oil drippings and spills are managed appropriately. If leaking vehicles are stored in parking garages or structures, consider moving the vehicle away from storm drains and placing a drip pan beneath the leaking equipment. Captured leaking fluids should be disposed in designated hazardous waste containers.
- Validate inlet protection and other erosion and sedimentation control measures are installed correctly before performing any maintenance operations where sediment or other pollutants could enter the storm system.

7.5 Storm Drain Maintenance

Overview

Storm drains are often the point of entry into storm sewer system, and they need to be cleaned and maintained on a regular basis to reduce the amount of pollution, trash, and debris into receiving water bodies. Clogged drains can overflow, thereby increasing the volume of water flowing into downstream structures and streams, as well as the chances for damage and erosion.

Some common pollutants found in storm drains include:

- Trash and debris
- Sediments
- Oil and Grease
- Antifreeze
- Paints
- Cleaners and solvents
- Pesticides
- Fertilizers
- Animal waste
- Detergents

Best Management Practices

- Maintain an accurate storm sewer map and information table depicting all components of the MS4 and receiving water bodies.
- Establish a routine inspection schedule for observing structure conditions and for screening potential illicit discharges.
- Utilize a vacuum truck for emptying materials trapped in drainage inlet and junction sumps or otherwise dispose of materials in accordance with state and federal regulations.
- Keep impervious surfaces clean of trash, debris, and sediment.
- Mark drainage inlets to maintain public awareness about illegal dumping

7.6 Exterior Building Maintenance

Overview

Maintenance of building exteriors may involve a number of different practices, from cleaning to resurfacing. Pressure washing, for example, can concentrate organic sediment, precipitates, surface material, and cleaning solutions into the waste water, which is characterized as an illicit discharge if it enters the MS4. Power washing water, cleaning agents, and other compounds should not enter the storm sewer system or water bodies. Care should be taken to prohibit fluids from flowing into roof drains, downspouts, and any other conveyances leading to them.

Best Management Practices

Cleaning:

- Identify storm drains and possible conveyances to storm drains prior to commencing with cleaning or washing, and take measures to prevent waste water from entering them.
- Use dry cleanup methods to remove debris prior to washing surfaces.
- Determine where waste water may pool and vacuum up or allow it to evaporate.
- Water not containing chemicals or cleaning agents may be allowed to infiltrate in grass or gravel areas. Waste water containing chemical pollutants must be captured and disposed of in the sanitary sewer. Suspended solids and oils must be removed from the wastewater using booms, absorbent pads, or other devices.
- Apply minimal water and prioritize dirty areas rather than cleaning or pressure washing an entire building.

Painting:

- When painting, use water-based paints and thinners instead of oil-based whenever possible.
- Mix paint indoors before starting work to minimize the potential for spills entering the MS4.
- When using spray paint, use smaller paint containers with high pressure sprayers to minimize waste.
- Use impermeable drop cloths when painting.
- Immediately clean up all spills when they occur.
- Recycle or donate excess paint.
- Allow paint containers to completely dry before disposal.

Clean water-based paint off of brushes in a sink connected to the sanitary sewer. Oil-based paint waste must be reused, recycled, or disposed as hazardous waste.

7.7 Landscape Management

Overview

Typical landscape maintenance practices can produce stormwater contaminants such as pesticides, soil, fertilizers, and debris which can pollute receiving water bodies. Maintaining an attractive campus landscape can require considerable efforts in pruning, dressing, watering, and fertilizing. Steps can be

taken to reduce the harmful effects of these practices on the stormwater system and water flowing into water bodies by reducing the number of inputs and waste, and by keeping maintenance crews adequately trained in best management practices.

The MS4 permit requires that a turf and landscape nutrient management plan be developed by a certified turf and landscape management planner in accordance with § 10.1-104.2 of the Code of Virginia on all lands owned by NVCC where nutrients are applied to a contiguous area greater than one acre. Designated NVCC staff tracks the total acreage where turf and landscape management plans are required and where such plans have been implemented, and they shall summarize the schedule and its implementation in annual permit reports.

NVCC shall not apply any de-icing agents containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.

Best Management Practices

- Compost lawn wastes and re-till into the soil of planting areas or mix into mulch.
- Minimize turf areas by planting groundcovers, wildflowers, and shrubs, thereby reducing mowing and water requirements.
- Select drought and heat resistant turf species, and do not cut turf shorter than 3 to 4 inches. Mulch clippings should be left on the turf as a natural fertilizer and ensure clippings are swept away from paved surfaces.
- Replace exotic plant species when necessary with regional, indigenous plants, which are typically more water efficient and disease resistant.
- Utilize low-volume irrigation methods and only water areas as needed to enhance plant root growth and avoid runoff issues.
- Reduce the use of fertilizers and utilize less-toxic alternatives such as composted organic material. If fertilizer is required, apply slow-release organic versions only on days with little wind and no chance of heavy rain. Apply only during the recommended time of year for the particular turf grass on the site.
- Avoid stockpiling materials leftover from landscape maintenance. Install composting facilities for light litter and remove other materials to an offsite recycling/composting facility.

7.8 Street Parking and Maintenance

Overview

Sometimes, street parking is necessary due to full parking lots and maintenance activities. Vehicles and towed trailers have the potential to contaminate the MS4 and nearby streams, but careful maintenance of these areas will prevent these consequences from occurring.

Best Management Practices

- Ensure streets are free of sediment and debris. Street sweep or clean as required.
- Ensure oil drippings and spills are managed appropriately. If leaking vehicles are stored in street parking, consider moving the vehicle away from storm drains and placing a drip pan beneath the leaking equipment. Captured leaking fluids should be disposed in designated hazardous waste containers.
- Park maintenance equipment and portable toilets away from storm sewer connections.
- Validate inlet protection and other erosion and sedimentation control measures are installed correctly before performing any maintenance operations where sediment or other pollutants could enter the storm system.

8.0 WASTE MANAGEMENT & DISPOSAL PROCEDURE

Responsible management of chemical and materials wastes can greatly reduce the amount of pollution in stormwater runoff. The following sections describe the recommended procedures for managing and disposing of waste materials NVCC may encounter. For any of the materials listed below, always see the Material Safety Data Sheets (MSDS) if available. The Good Housekeeping Manual is not meant to supersede or replace any Material Safety Data Sheet or manufacturer's instructions, but rather supplement them and further reduce the impacts of stormwater pollution.

8.1 Aerosol Cans

Aerosol cans should be properly disposed of as hazardous waste, and a local hazardous waste disposal vendor should be contracted to transfer the materials offsite to their facility. Recycling is also an acceptable route, however cans must be punctured and emptied after final use, and the contents must be separately stored and disposed of as hazardous waste. NVCC is a small quantity generator of aerosol cans, mainly relating to janitorial services, and is not likely to accumulate the necessary volume to make recycling efficient.

A waste disposal vendor will typically provide either a 55-gallon steel drum, fiber drum, or fiber box for collection of aerosol cans, and this container should be placed at a location central to waste collection and storage of other chemicals. The container should remain closed and labeled as "Aerosol Cans." Once the 55-gallon limit is reached, contact the vendor within three days and have them transfer the container offsite. Do not move the container to another offsite location. Obtain a hazardous waste manifest from the vendor and keep the records on file.

8.2 Animal Carcasses

Roadside and property management of animal carcasses is generally dictated by the location and situation, with priority given to ensuring public safety by immediately removing the carcass from the area. Carcasses should be disposed of at a landfill or in a covered dumpster that is frequently emptied.

8.3 Antifreeze

Place used antifreeze in a drum or tank and clearly label as "Used Antifreeze." The container should remain closed when not in use and must be in good condition, with no other fluids being added. Contract a local hazardous waste disposal vendor to transfer the container offsite when it is full, and maintain records about the vendor and the final destination of the container.

8.4 Batteries

Traditional alkaline batteries (AA, AAA, C, D, 9-volt) are not regulated by the EPA and can legally be thrown away with other, non-hazardous waste. However, types of batteries that are classified as Universal Waste and must be collected, stored, and recycled include: Nickel Cadmium, Nickel Metal Hydride, Lithium Ion, Lithium, Mercury, Silver, Lead Acid, Lead Acid Flooded Cell Batteries, Non-Spillable Lead Acid Batteries, Sodium Batteries, and Potassium Hydroxide.

Recycling vendors are available and may provide a storage container and option to mail the materials to their location, or the batteries can be transported to the nearest recycling facility.

- Batteries to be recycled should be clearly marked as "Waste Batteries" or "Used Batteries."
- The battery collection container should have the date that the first battery is collected marked on the outside. Batteries can be stored in the container for up to one year of the marked date.
- Maintain records for the final destination of the batteries once they leave the site to a recycling facility or vendor.

8.5 Treated Lumber

The priority for treated timber is to first find potential for reuse in another project. If the materials are being discarded, conditions apply based on the chemicals used to treat the wood.

- Timber Treated with Chromated Copper Arsenate (CCA): The Resource Conservation and Recovery Act (RCRA) exempts CCA treated lumber from hazardous waste regulation as long as the wood is in the same form it was for its intended use. Mulch, for example, is not exempt and cannot be legally sent to the landfill.
- Timber Treated with Creosote: Though not required by EPA regulation on weathered wood, a disposal facility may require Toxic Characteristic Leachate Testing (TCLP) prior to disposal. New creosote treated timber must be tested to determine if it is hazardous prior to disposal. Contact the local hazardous waste authority for further guidance on testing.
- Timber Treated with Pentachlorophenol (PCP): All PCP treated timber must be tested prior to disposal. Contact the local hazardous waste authority for guidance.

8.6 Empty Containers

All empty containers should be properly stored to reduce degradation until such time as they are recycled or disposed of at a landfill. Best practices include keeping the containers closed and storing them together in a covered area. Label the containers as "Empty."

Empty containers previously storing non-hazardous/non-RCRA materials such as oils and diesel fuel should be disposed or recycled in the following manner:

- **Disposal:** Empty the containers. Use absorbents such as rags or oil dry (no liquids) to help capture the remaining material. Cut off both ends and crush the containers.
- **Recycling:** Empty the containers. Use absorbents such as rags or oil dry (no liquids) to help capture remaining material. Send the container to a recycling facility.

Empty containers previously storing hazardous/RCRA non-acute hazardous materials or wastes (such as gasoline, low flashpoint solvents, and some paints) should implement the following options:

- **Disposal:** Empty the containers so that the remaining residue at the bottom is one inch or less. Use absorbents such as rags or oil dry (no liquids) to help capture the remaining material. Cut off both ends and crush the containers.
- **Recycling:** Empty the containers so that the remaining residue at the bottom is one inch or less. Use absorbents such as rags or oil dry (no liquids) to help capture the remaining material. Send the container to a recycling facility.

Containers not yet disposed of or recycled can be kept in a central, secure, storage area. Containers must be closed and clearly labeled “Empty Container – Hazardous Waste” and inspected weekly. Containers can be stored for up to 180 days and disposed of by a hazardous waste vendor. Obtain a hazardous waste manifest from the vendor and keep it on file after disposal.

8.7 E-Waste (Monitors and Computers)

All computers, monitors, and other electronic waste should be properly disposed of and/or recycled through an electronic waste vendor.

8.8 Filters-Oil, Gas, Diesel, Paint

Used filters may either be recycled or disposed of as solid waste under the following conditions:

Used Oil Filters

- **Recycling:** Drain filters into a used oil container. Place them in a container labeled “Used Oil/Diesel Fuel Filters” and contact a scrap metal vendor for recycling. Maintain records for the final destination of the filters from the vendor.
- **Disposal:** Oil filters can be disposed of as solid waste when punctured and drained. Drain into an enclosed container labeled “Used Oil.”

Used Diesel Fuel Filters

- **Recycling:** Drain filters into a used oil container. Place them in a container labeled “Used Oil/Diesel Fuel Filters” and contact a scrap metal vendor for recycling. Maintain disposal records.
- **Disposal:** Diesel fuel filters can be disposed of as solid waste when punctured and drained. Drain into a used oil container.

Used Gasoline Filters

- **Recycling:** Used gasoline filters with metal casings are exempt from regulation when treated as scrap metal and recycled. Drain into a used gasoline container and place drained filters into a

separate container labeled “Used Gasoline Filters.” Contact a scrap metal vendor for disposal and maintain records.

- **Disposal as Hazardous Waste:** Used gasoline filters may also be managed according to hazardous waste requirements, at or near their point of generation with storage limits up to 55 gallons. Place drained filters into a container labeled “Used Gasoline Filters”. Once the 55 gallon threshold is met, the container must be shipped off-site by a hazardous waste vendor. Maintain records of the disposal.

8.9 Fluorescent Lamps, HID, and Metal Halide Lights

Types of lamps that are considered as Universal Waste under the Resource Conservation and Recovery Act and must be collected, stored, and recycled include: fluorescent bulbs, high intensity discharge, metal halide, neon, mercury vapor, and high pressure sodium lights.

Lamps may be collected in an empty box the new ones came in or purchased from a lamp recycling vendor. The lights must be securely stored and unbroken. Label the containers as “Waste Lamps” or “Used Lamps” and indicate the date the first lamp was placed there.

Broken bulbs must be contained in leak proof containers. Check with the vendor to see if they will take broken bulbs as well as unbroken.

Dispose of the lamps at the nearest recycling facility and maintain a record.

8.10 Freon

EPA requires service shops to use approved refrigerant recovery equipment for repair of air conditioning systems in motor vehicles. NVCC technicians using refrigerant recovery equipment must be trained and certified by an EPA-approved organization.

To comply with the requirements, service shops must send the Motor Vehicle Air-Conditioning (MVAC) Certification form to EPA along with the facility name and address, name of equipment manufacturer, equipment model and serial number, and a manufacture date. Maintain records for three years of the technician certifications and the name and address of the reclamation facility.

8.11 Herbicides and Pesticides

Herbicides and pesticides are both considered pesticides under EPA regulation. Containers should be stored in a covered area on impervious flooring, and containers should be segregated according to type. Ensure all containers are labeled and kept closed, and remove only the amount expected to use until the container is empty.

Never pour leftover pesticides down the sink, into the toilet, or down a sewer or street drain. Pesticides may interfere with the operation of wastewater treatment systems or pollute waterways, where they may harm fish, plants, and other living things.

Empty pesticide containers may be managed as a universal waste, disposed, or returned to the vendor.

Partially Full Containers as Universal Waste

- Herbicide/Pesticides that cannot be completely used and the containers are partially full should be marked as “Waste Pesticide” or “Used Pesticide.”
- Contact the local hazardous waste authority for disposal as solid waste. Maintain a record of the final destination for used pesticide containers.

Empty Containers for Disposal or Recycling

- Containers should be rinsed three times with potable water and disposed. Save the rinse water in separate container for future applications. If the rinse water is not reused it must be properly managed. Contact the local hazardous waste authority for guidance on proper disposal.

Partially Filled Containers Returned to the Vendor

- Some vendors may accept returned pesticides. Keep all containers clearly marked with original labeling and contact vendor for proper handling and shipment.

8.12 Fluorescent Light Ballasts (PCB and Non-PCB)

PCBs or polychlorinated biphenyls can be present in the solid potting material and in the capacitors of fluorescent light ballasts (FLB) manufactured before 1979, and these devices may still be in use with fluorescent lights in buildings from that era¹. Non-leaking light ballasts are restricted to disposal in sanitary or industrial landfills with leachate collection, liners, and appropriate groundwater monitoring.

A PCB-containing FLB failure, leak, smoking condition, or fire requires the following:

- Isolate the affected area from central ventilation and ventilate the air separately
- Relocate students and faculty from the affected area.
- Hire experienced cleanup personnel to clean up and decontaminate equipment and surfaces.
- Comply with environmental regulations for proper storage and disposal of contaminated equipment and cleanup materials.

Storage of Non-leaking Equipment

- Non-leaking equipment can be stored for 30 days, after which point storage is subject to more stringent requirements.
- Dispose of the non-leaking ballasts as a solid waste in a municipal solid waste landfill.

¹ PCB-containing fluorescent light ballasts that are currently in use have exceeded their designed lifespan and pose significant risk. EPA recommends removing PCB-containing FLBs from buildings as soon as possible to prevent potential inhalation or dermal exposure.

8.13 Mercury Switches and Equipment

A mercury switch or equipment is any device containing mercury integral to its function (e.g. thermostats, appliances). Spilled or exposed mercury poses significant risk as it can evaporate and become and invisible, odorless and toxic vapor. They are classified as Universal Waste and must be collected, stored, and recycled while intact in the device.

- Collect unbroken mercury switches and equipment in an empty container marked "Waste Mercury Switch/Equipment" or "Used Mercury Switches/Equipment." Mark the outside of the container with the date the first item is placed in the container.
- Store for up to a year in the enclosed container and transfer the materials to a local recycling facility or contact the local hazardous waste authority.
- Maintain a record of the final destination of the equipment.
- If mercury is spilled or exposed, isolate the area and hire experienced professionals to clean up and decontaminate equipment and surfaces.

8.14 Oil, Gas, and Diesel Waste

Waste fuels must be stored in separate, enclosed drums or tanks and clearly labeled as "Used Oil," "Used Diesel Fuel," or "Used Gasoline." Each container should remain closed unless in use and should remain in a covered, secured area. Contact a recycling vendor when the container is full and maintain records from the vendor.

Spillage

- Apply absorbent on the spill area and dispose of the waste properly. Never hose down the affected area. Refer to Section 8.17 for guidance on disposal of rags, wipes, and absorbents.
- Prevent fluids from entering the storm sewer by diverting by diverting any flows that are on an impervious surface.
- If a spill occurs on a pervious surface such as sand, gravel, or grass, mark the area and contact DEQ.

8.15 Paint Waste-Latex, Solvent Based

Paints and liquid surface coverings such as polyurethane should be stored in containers that are clearly labeled and remain closed. Store containers in secure, covered area off the floor.

Latex Paint

Latex paint is non-hazardous and its containers may be discarded once completely empty and does not contain free liquid. Absorbents can be used to remove any remaining free liquid, or spread the paint on cardboard or newspaper and allow the container to dry completely.

Solvent Based Paints

These paints—including stains, sealers, and associated thinning agent—should be managed as hazardous waste due to the organic solvents they contain. If minor amounts are leftover and cannot be used, use absorbents to remove any remaining free liquid, or spread the paint onto newspaper or cardboard and allow to dry completely. If the quantity is large, contact a waste disposal vendor and maintain records of the disposal.

8.16 Parts Cleaners

Low-Flashpoint Solvents

Low-flash solvents contained in parts washers become hazardous waste once the solvent becomes too contaminated to clean effectively. Unless the parts washers are under a regularly-scheduled service agreement, a hazardous waste vendor should be contacted when the solvents becomes ineffective at cleaning.

High Flashpoint Solvents

Waste solvents with a high flashpoint are not typically hazardous and can be recycled, unless the solvent is tested for pH and toxicity and is determined to be hazardous waste. Contact the vendor for related information, or contact a hazardous waste vendor for disposal. Maintain records of the final destination.

Aqueous Solvents

Waste aqueous solvents are typically not hazardous and can be recycled, unless they have become highly contaminated with materials from the washed parts, such as toxic metals and oils. Unless the spent liquid is tested, it should be assumed that it is hazardous and should be treated as other solvents by a waste vendor.

8.17 Rags, Wipes, Absorbents

Disposal methods vary for rags, wipes, and absorbents, depending on the type of substance absorbed. They will either fall under the Used Oil Regulation, the Hazardous Waste Regulations, or the Solid Waste Regulations.

Absorbents Used to Capture Used Oil

Waste rags, wipes, and absorbents containing oil (such as motor oil, hydraulic oil, etc.) may be discarded in the trash or laundered at an industrial facility if they are not dripping or completely saturated with oil. Materials that are saturated with used oil should be wrung out or otherwise managed to remove as much free flowing oil as possible. The extracted oil should be contained with other used oil and recycled by a vendor, and the absorbent materials can be discarded in the trash. Maintain records of the final destination of materials that are recycled.

Absorbents Used to Capture Diesel Fuel

Waste rags, wipes, and absorbents containing diesel fuel may be discarded in the trash or laundered at an industrial facility if they are not dripping or completely saturated with diesel fuel. Materials that are saturated with used oil should be kept in a closed container marked as “Used Absorbents.” Contact a used oil vendor when the container is full, and keep records of the final destination.

Absorbents Used to Capture Hazardous Materials

Waste rags, wipes, and absorbents containing hazardous materials such as gasoline, solvent-based paint, and some solvents and cleaners must be managed as hazardous waste. Collect the materials into a barrel or bucket with a tightly fitting lid and marked as “Waste Absorbents” and contact a hazardous waste vendor when full.

8.18 Scrap Tires

The primary means of scrap tire disposal is recycling through a registered waste tire hauler or at a scrap tire facility. If tires cannot be recycled they can be taken to a landfill that accepts waste tires. Virginia regulation states that no more than 100 scrap tires may be stored on site at any one time without a Solid Waste Permit. When the tires are transported off the site, keep records of the final destination.

8.19 Salt Ponds and Storage

Currently there are not salt ponds or salt storage at the NVCC campus. However, if salt storage is incorporated into the operations at NVCC, BMPs for this function should be considered and written into this manual.

8.20 Salt Spreaders

Currently there are not salt spreaders at the NVCC campus. However, if NVCC incorporates salt spreaders into their operation, BMPs for this operation should be determined and written into this manual.

8.21 Solid Waste-Trash

All solid items not recycled or managed as hazardous waste may be considered as solid waste and disposed of using a trash collection service or municipal landfill. Liquids generally cannot be disposed of in regular trash collection service and the local hazardous waste authority should be consulted if suspect liquids are in the waste collection. Recycling vendors may collect additional liquid wastes that are not listed in this document.

Waste should be collected in bags that are securely closed and transferred to a lidded dumpster in good condition. Loose trash from unsecured collection could blow into stormwater drainage areas or come in contact with stormwater and potentially contribute pollutants into receiving waters.

8.22 Surplus and Excess Property

Materials and property that are no longer in use and stored on the campus should be managed carefully so that they are expeditiously transferred to their next user or location. Materials should not be stockpiled in locations where they might deteriorate and potentially cause pollutants to enter the stormwater.

APPENDIX A: NVCC Points of Contact

NVCC GOOD HOUSEKEEPING/POLLUTION PREVENTION POINTS OF CONTACT

Below is a table of points of contact that can be useful throughout the various components of the Good Housekeeping/Pollution Prevention Program.

NVCC – Points of Contact		
Sara Rilveria – MS4 Program Manager		(703) 323-4160
MS4 Localities – Points of Contact		
City of Alexandria Fairfax County Loudoun County Prince William County	IDDE Reporting Public Works Public Works IDDE Reporting	(703) 746-4200 (703) 324-5033 (703) 771-5552 (703) 792-7070
VDOT	NOVA District	800-367-7632
Agency – Points of Contact		
DEQ	Pollution Response & Preparedness Program	(804) 698-4000
Emergency Notification		911
National Response Center		(800) 424-8802

APPENDIX B: SWPPP Inspection Form

Inspectors Name:

Date of Inspection:

Yes	No	N/A
-----	----	-----

① MAINTENANCE

Vehicle Maintenance

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Any containers of fluids on the ground or exposed to precipitation?			
Any batteries stores outside or exposed to precipitation?			
Any oily vehicle parts exposed to precipitation?			
Are vehicles maintained near storm drains?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.2. Provide documentation on any applicable item and complete a follow-up inspection.

Comments:

Vehicle Washing

Vehicle washing methods can vary based on personnel and policies. Please inspect the applicable scenario.

1. No vehicle washing takes place on campus. Commercial car washes are utilized and “Do Not Wash Vehicles” sign are installed at every applicable outdoor spigot.

Are any scrub brushes, detergents, or other chemicals outdoors or in the area of spigots?			
If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.1. Complete a findings and follow-up form.			

2. Vehicle washing takes place on campus with water only (no soap, detergents, waxing) on pervious surfaces (grass or gravel) and “Do Not Wash Vehicles” sign are installed at every applicable outdoor spigot.

Are any scrub brushes, detergents, or other chemicals outdoors or in the area of spigots?			
If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.1. Complete a findings and follow-up form.			

3. Vehicles are washed on campus in designated wash bays that drain directly to a sanitary sewer.

Any scrub brushes, detergents, or other chemicals stored outside?			
Indicators of washing chemical containers leaking?			
Any washing chemical containers not labeled or labeled incorrectly?			
If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.1. Complete a findings and follow-up form.			

3. Vehicle washing takes place but is not in accordance with on the acceptable practices above.

If this item is checked "Yes", please document and reference the Good Housekeeping/Pollution Prevention Manual Section 6.1 for acceptable methods of vehicle washing. Document and complete a follow-up inspection.

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.1. Complete a findings and follow-up form.

Comments:

Vehicle Storage

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Indicators of corrosion on vehicles that could affect water quality or possibly cause chemical releases in the future?			
Any containers of fluids on the ground or exposed to precipitation?			
Any batteries stores outside or exposed to precipitation?			
Any oily vehicle parts exposed to precipitation?			
Are vehicles maintained near storm drains?			
If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.3. Provide documentation on any applicable item and complete a follow-up inspection.			

Comments:

Chemical Storage

Indicators of chemicals stored outdoors or exposed to precipitation?			
Indicators of chemical containers leaking?			
Chemical containers not labeled or labeled incorrectly?			
Chemicals stores in high traffic areas or overhead?			
If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.6.			

Comments:

Fueling Areas

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Indicators of corrosion on fueling containers that could affect water quality or possibly cause chemical releases in the future?			
Any containers of fluids on the ground or exposed to precipitation?			
Indicator spill kits need maintenance?			
If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.4.			

Comments:

Dumpsters

Are dumpsters open?			
Are dumpsters leaking?			
If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.5.			
Comments:			

Outdoor Material Storage

Any soluble materials exposed to precipitation?			
Any potentially hazardous material that could affect water quality exposed to precipitation?			
Are materials containing possible contaminates stored near storm inlets?			
Do any material storage containers have tops that are not sealed?			
Are any material that are stored degrading, leaking, or corroding?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.8.

Comments:

Outdoor Loading

Indicators of oil drippings, spills or leaking vehicles?

--	--	--	--

Indicators of loading material spillage?

--	--	--	--

Does loading area have significant trash, dirt, or debris accumulation?

--	--	--	--

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.7.

Comments:

2**DUMPSTERS AND LOADING AREA****Dumpsters**

Are dumpsters open?

--	--	--	--

Are dumpsters leaking?

--	--	--	--

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.5.

Comments:

Outdoor Loading

Indicators of oil drippings, spills or leaking vehicles?

--	--	--	--

Indicators of loading material spillage?

--	--	--	--

Does loading area have significant trash, dirt, or debris accumulation?

--	--	--	--

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.7.

Comments:

4**AUTOMOTIVE SHOP****Vehicle Maintenance**

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?

--	--	--	--

Any containers of fluids on the ground or exposed to precipitation?

--	--	--	--

Any batteries stores outside or exposed to precipitation?

--	--	--	--

Any oily vehicle parts exposed to precipitation?

--	--	--	--

Are vehicles maintained near storm drains?

--	--	--	--

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.2. Provide documentation on any applicable item and complete a follow-up inspection.

Comments:

Vehicle Storage

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?

--	--	--	--

Indicators of corrosion on vehicles that could affect water quality or possibly cause chemical releases in the future?

--	--	--	--

Any containers of fluids on the ground or exposed to precipitation?

--	--	--	--

Any batteries stores outside or exposed to precipitation?

--	--	--	--

Any oily vehicle parts exposed to precipitation?

--	--	--	--

Are vehicles maintained near storm drains?

--	--	--	--

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.3. Provide documentation on any applicable item and complete a follow-up inspection.

Comments:

Good Housekeeping FINDINGS & FOLLOWUP FORM

This finding was a result of: Routine Inspection Day to Day Good Housekeeping Complaint

If a result of a complaint, who was the source? _____

Location of incident or finding: _____

Date of incident or finding: _____ Material Discharged, released or spilled: _____

Quantity discharged, released, or spilled: _____

Was finding resolved? Yes No

If yes, please explain clean-up measures and disposal. If no, please explain why it was not resolved.

Is any follow-up action required? Yes No

If yes, please explain.

Notes:

Attach photographs to this form and retain for records.

Inspectors Name:

Date of Inspection:

Yes	No	N/A
-----	----	-----

① CW WAREHOUSE

Vehicle Storage

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Indicators of corrosion on vehicles that could affect water quality or possibly cause chemical releases in the future?			
Any containers of fluids on the ground or exposed to precipitation?			
Any batteries stores outside or exposed to precipitation?			
Any oily vehicle parts exposed to precipitation?			
Are vehicles maintained near storm drains?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.3. Provide documentation on any applicable item and complete a follow-up inspection.

Comments:

Dumpsters

Are dumpsters open?			
Are dumpsters leaking?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.5.

Comments:

Outdoor Loading

Indicators of oil drippings, spills or leaking vehicles?			
Indicators of loading material spillage?			
Does loading area have significant trash, dirt, or debris accumulation?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.7.

Comments:

② MAINTENANCE BUILDING

Vehicle Maintenance

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Any containers of fluids on the ground or exposed to precipitation?			
Any batteries stores outside or exposed to precipitation?			
Any oily vehicle parts exposed to precipitation?			
Are vehicles maintained near storm drains?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.2. Provide documentation on any applicable item and complete a follow-up inspection.

Comments:

Vehicle Storage

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Indicators of corrosion on vehicles that could affect water quality or possibly cause chemical releases in the future?			
Any containers of fluids on the ground or exposed to precipitation?			
Any batteries stores outside or exposed to precipitation?			
Any oily vehicle parts exposed to precipitation?			
Are vehicles maintained near storm drains?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.3. Provide documentation on any applicable item and complete a follow-up inspection.

Comments:

Vehicle Washing

Vehicle washing methods can vary based on personnel and policies. Please inspect the applicable scenario.

1. No vehicle washing takes place on campus. Commercial car washes are utilized and “Do Not Wash Vehicles” sign are installed at every applicable outdoor spigot.

Are any scrub brushes, detergents, or other chemicals outdoors or in the area of spigots?			
---	--	--	--

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.1. Complete a findings and follow-up form.

2. Vehicle washing takes place on campus with water only (no soap, detergents, waxing) on pervious surfaces (grass or gravel) and “Do Not Wash Vehicles” sign are installed at every applicable outdoor spigot.

Are any scrub brushes, detergents, or other chemicals outdoors or in the area of spigots?			
---	--	--	--

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.1. Complete a findings and follow-up form.

3. Vehicles are washed on campus in designated wash bays that drain directly to a sanitary sewer.

Any scrub brushes, detergents, or other chemicals stored outside?			
Indicators of washing chemical containers leaking?			
Any washing chemical containers not labeled or labeled incorrectly?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.1. Complete a findings and follow-up form.

3. Vehicle washing takes place but is not in accordance with on the acceptable practices above.

If this item is checked "Yes", please document and reference the Good Housekeeping/Pollution Prevention Manual Section 6.1 for acceptable methods of vehicle washing. Document and complete a follow-up inspection.

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.1. Complete a findings and follow-up form.

Comments:

Chemical Storage

Indicators of chemicals stored outdoors or exposed to precipitation?			
Indicators of chemical containers leaking?			
Chemical containers not labeled or labeled incorrectly?			
Chemicals stores in high traffic areas or overhead?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.6.

Comments:

Fueling Areas

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Indicators of corrosion on fueling containers that could affect water quality or possibly cause chemical releases in the future?			
Any containers of fluids on the ground or exposed to precipitation?			
Indicator spill kits need maintenance?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.4.

Comments:

**Dumpsters**

Are dumpsters open?			
Are dumpsters leaking?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.5.

Comments:

**Outdoor Material Storage**

Any soluble materials exposed to precipitation?			
Any potentially hazardous material that could affect water quality exposed to precipitation?			
Are materials containing possible contaminants of stored near storm inlets?			
Do any material storage containers have tops that are not sealed?			
Are any material that are stored degrading, leaking, or corroding?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.8.

Comments:

Outdoor Loading

Indicators of oil drippings, spills or leaking vehicles?			
Indicators of loading material spillage?			
Does loading area have significant trash, dirt, or debris accumulation?			
If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.7.			

Comments:

Good Housekeeping FINDINGS & FOLLOWUP FORM

This finding was a result of: Routine Inspection Day to Day Good Housekeeping Complaint

If a result of a complaint, who was the source? _____

Location of incident or finding: _____

Date of incident or finding: _____ Material Discharged, released or spilled: _____

Quantity discharged, released, or spilled: _____

Was finding resolved? Yes No

If yes, please explain clean-up measures and disposal. If no, please explain why it was not resolved.

Is any follow-up action required? Yes No

If yes, please explain.

Notes:

Attach photographs to this form and retain for records.

Inspectors Name:

Date of Inspection:

Yes	No	N/A
-----	----	-----

1 MAINTENANCE

Vehicle Maintenance

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Any containers of fluids on the ground or exposed to precipitation?			
Any batteries stores outside or exposed to precipitation?			
Any oily vehicle parts exposed to precipitation?			
Are vehicles maintained near storm drains?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.2. Provide documentation on any applicable item and complete a follow-up inspection.

Comments:

Vehicle Washing

Vehicle washing methods can vary based on personnel and policies. Please inspect the applicable scenario.

1. No vehicle washing takes place on campus. Commercial car washes are utilized and “Do Not Wash Vehicles” sign are installed at every applicable outdoor spigot.

Are any scrub brushes, detergents, or other chemicals outdoors or in the area of spigots?			
If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.1. Complete a findings and follow-up form.			

2. Vehicle washing takes place on campus with water only (no soap, detergents, waxing) on pervious surfaces (grass or gravel) and “Do Not Wash Vehicles” sign are installed at every applicable outdoor spigot.

Are any scrub brushes, detergents, or other chemicals outdoors or in the area of spigots?			
If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.1. Complete a findings and follow-up form.			

3. Vehicles are washed on campus in designated wash bays that drain directly to a sanitary sewer.

Any scrub brushes, detergents, or other chemicals stored outside?			
Indicators of washing chemical containers leaking?			
Any washing chemical containers not labeled or labeled incorrectly?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.1. Complete a findings and follow-up form.

3. Vehicle washing takes place but is not in accordance with on the acceptable practices above.

If this item is checked "Yes", please document and reference the Good Housekeeping/Pollution Prevention Manual Section 6.1 for acceptable methods of vehicle washing. Document and complete a follow-up inspection.

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.1. Complete a findings and follow-up form.

Comments:

Vehicle Storage

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Indicators of corrosion on vehicles that could affect water quality or possibly cause chemical releases in the future?			
Any containers of fluids on the ground or exposed to precipitation?			
Any batteries stores outside or exposed to precipitation?			
Any oily vehicle parts exposed to precipitation?			
Are vehicles maintained near storm drains?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.3. Provide documentation on any applicable item and complete a follow-up inspection.

Comments:

Erodible Stockpiles

Indicators that stockpile material is migrating?			
Indicators that stockpile perimeter control has not been installed or maintained?			
Is stockpile material stored near drains or waterways?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.8.

Comments:

Chemical Storage

Indicators of chemicals stored outdoors or exposed to precipitation?			
Indicators of chemical containers leaking?			
Chemical containers not labeled or labeled incorrectly?			
Chemicals stores in high traffic areas or overhead?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.7.

Comments:

Fueling Areas

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Indicators of corrosion on fueling containers that could affect water quality or possibly cause chemical releases in the future?			
Any containers of fluids on the ground or exposed to precipitation?			
Indicator spill kits need maintenance?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.3.

Comments:

 **DUMPSTERS**

Are dumpsters open?			
Are dumpsters leaking?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.5.

Comments:

Good Housekeeping FINDINGS & FOLLOWUP FORM

This finding was a result of: Routine Inspection Day to Day Good Housekeeping Complaint

If a result of a complaint, who was the source? _____

Location of incident or finding: _____

Date of incident or finding: _____ Material Discharged, released or spilled: _____

Quantity discharged, released, or spilled: _____

Was finding resolved? Yes No

If yes, please explain clean-up measures and disposal. If no, please explain why it was not resolved.

Is any follow-up action required? Yes No

If yes, please explain.

Notes:

Attach photographs to this form and retain for records.

Inspectors Name:

Date of Inspection:

Yes	No	N/A
-----	----	-----

1 SERVICE SUPPORT

Fueling Areas

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Indicators of corrosion on fueling containers that could affect water quality or possibly cause chemical releases in the future?			
Any containers of fluids on the ground or exposed to precipitation?			
Indicator spill kits need maintenance?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.4.

Comments:

Vehicle Maintenance

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Any containers of fluids on the ground or exposed to precipitation?			
Any batteries stores outside or exposed to precipitation?			
Any oily vehicle parts exposed to precipitation?			
Are vehicles maintained near storm drains?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.2. Provide documentation on any applicable item and complete a follow-up inspection.

Comments:

Chemical Storage

Indicators of chemicals stored outdoors or exposed to precipitation?			
Indicators of chemical containers leaking?			
Chemical containers not labeled or labeled incorrectly?			
Chemicals stores in high traffic areas or overhead?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.6.

Comments:

2 MAINTENANCE BUILDING

Vehicle Maintenance

Indicators of vehicles leaking oil or other fluids? Indicators of leaks, drips, or spills?			
Any containers of fluids on the ground or exposed to precipitation?			
Any batteries stores outside or exposed to precipitation?			
Any oily vehicle parts exposed to precipitation?			
Are vehicles maintained near storm drains?			

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.2. Provide documentation on any applicable item and complete a follow-up inspection.

Comments:

Erodible Stockpiles

Indicators that stockpile material is migrating?			
--	--	--	--

Indicators that stockpile perimeter control has not been installed or maintained?			
---	--	--	--

Is stockpile material stored near drains or waterways?			
--	--	--	--

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.8.

Comments:

③ DUMPSTERS

Are dumpsters open?			
---------------------	--	--	--

Are dumpsters leaking?			
------------------------	--	--	--

If answered yes to any of the above, consult the Good Housekeeping/Pollution Prevention Manual section 6.5.

Comments:

Good Housekeeping FINDINGS & FOLLOWUP FORM

This finding was a result of: Routine Inspection Day to Day Good Housekeeping Complaint

If a result of a complaint, who was the source? _____

Location of incident or finding: _____

Date of incident or finding: _____ Material Discharged, released or spilled: _____

Quantity discharged, released, or spilled: _____

Was finding resolved? Yes No

If yes, please explain clean-up measures and disposal. If no, please explain why it was not resolved.

Is any follow-up action required? Yes No

If yes, please explain.

Notes:

Attach photographs to this form and retain for records.

APPENDIX C: Contractor Oversight Form

Contractor Oversight FORM

Use this form in conjunction with bi-weekly inspections of work being performed by contractors that could potentially pollute stormwater and retain records for annual reporting.

Contractor Name: _____

Campus location: _____ Dates and duration of work: _____

General description of the work: _____

First Inspection Followup Inspection

If this is a followup inspection, were any previous inspection items that needed to be addressed? Yes No

If yes, please describe: _____

Describe the potential pollutants associated with this work and how they will be contained: _____

Are there any areas of concern regarding pollution prevention/good housekeeping best management practices?

Yes No

If yes, describe the concern and how it should be addressed:

Is any follow-up action required? Yes No

If yes, please explain.

APPENDIX D: NVCC Knowledge Check Quiz

Pollution Prevention Knowledge Check Quiz

Name: _____

Date: _____

1. IDDE stands for:
 - a. Illegal Damage and Discharge Energy
 - b. Important Discovery Development and Experiment
 - c. Illicit Discharge Detection and Elimination
 - d. Illegal Drainage and Dumping to the Environment

2. In reference to an illicit discharge, a generating site is:
 - a. Where electrical generators are stored
 - b. A specific source area that may produce pollutants
 - c. A landscape irrigation area
 - d. Where the water supply originates

3. The Stormwater Pollution Prevention Mapping shows all of the following except:
 - a. Stormwater pipe locations
 - b. Potential pollution generating sites
 - c. Stormwater discharge locations
 - d. Bus Stops

4. Good Housekeeping/Pollution Prevention inspection records should be kept for
_____ year(s):
 - a. 1
 - b. 10
 - c. 3
 - d. 5

5. If a potential source of pollution is reported to you by a student you should:
 - a. Take no action
 - b. Contact the Director of Facilities
 - c. Call the police department
 - d. Clean up the pollution yourself

6. Vehicles can be washed under all the following circumstances except:
 - a. In a designated wash bay that drains to the sanitary sewer
 - b. Near a storm drain
 - c. On the grass, but with no soap or detergents
 - d. At a local commercial car wash
7. Which of the following landscape maintenance materials are considered potential sources of pollution:
 - a. Mulch piles
 - b. Concentrated grass clippings
 - c. Fertilizers
 - d. All of the above
8. True or False: Powerwashing is never considered to be a source of illicit discharges.
9. Which of these sources is an illicit discharge:
 - a. Waterline flushing
 - b. Air conditioning condensate
 - c. Automotive fluids
 - d. Fire-fighting activities
10. Spilled fuel should be cleaned up in the following manner:
 - a. Let it dry and hose off the area
 - b. Use kitty litter and sweep it into the drain
 - c. Spilled fuel is not a source of pollution, no action is needed
 - d. Use a spill kit and contain any used absorbents

Special Local Water Quality Concerns

11. Which of the following are possible sources of sediment:
 - a. Leaves in drain
 - b. Dirt stockpiles
 - c. Fertilizer
 - d. Portable toilet

12. Which of the following is a method to control sediment:

- a. Silt fence
- b. Hay bales
- c. Gutter buddies
- d. All of the above

13. Which of the following is a pollutant of the Chesapeake Bay TMDL:

- a. PCB
- b. Oil
- c. Bacteria
- d. Sediment

14. Which of the following best describes a Nutrient Management Plan:

- a. Conservative practices for the use of nutrients such as fertilizer to effectively provide nutrients to plants while protecting against adverse effects.
- b. Practices on the use of mulch and other ground covers for protecting plants and ensuring that they have adequate nutrients.
- c. Plan for applying nutrients while observing weather conditions to ensure that it does not rain within two weeks of applying fertilizers.
- d. Plan that applies to grass cutting.

15. The nutrient management plan is applicable to:

- a. Personnel applying nutrients
- b. President
- c. Students
- d. Visitors

Answer Key

1. IDDE stands for:
 - a. Illegal Damage and Discharge Energy
 - b. Important Discovery Development and Experiment
 - c. **Illicit Discharge Detection and Elimination**
 - d. Illegal Drainage and Dumping to the Environment

2. In reference to an illicit discharge, a generating site is:
 - a. Where electrical generators are stored
 - b. **A specific source area that may produce pollutants**
 - c. A landscape irrigation area
 - d. Where the water supply originates

3. The Stormwater Pollution Prevention Mapping shows all of the following except:
 - a. Stormwater pipe locations
 - b. Potential pollution generating sites
 - c. Stormwater discharge locations
 - d. **Bus Stops**

4. Good Housekeeping/Pollution Prevention inspection records should be kept for
____ year(s):
 - a. 1
 - b. 10
 - c. **3**
 - d. 5

5. If a potential source of pollution is reported to you by a student you should:
 - a. Take no action
 - b. **Contact the Director of Facilities**
 - c. Call the police department
 - d. Clean up the pollution yourself

6. Vehicles can be washed under all the following circumstances except:
 - a. In a designated wash bay that drains to the sanitary sewer
 - b. Near a storm drain**
 - c. On the grass, but with no soap or detergents
 - d. At a local commercial car wash
7. Which of the following landscape maintenance materials are considered potential sources of pollution:
 - a. Mulch piles
 - b. Concentrated grass clippings
 - c. Fertilizers
 - d. All of the above**
8. True or **False**: Powerwashing is never considered to be a source of illicit discharges.
9. Which of these sources is an illicit discharge:
 - a. Waterline flushing
 - b. Air conditioning condensate
 - c. Automotive fluids**
 - d. Fire-fighting activities
10. Spilled fuel should be cleaned up in the following manner:
 - a. Let it dry and hose off the area
 - b. Use kitty litter and sweep it into the drain
 - c. Spilled fuel is not a source of pollution, an no action is needed
 - d. Use a spill kit and contain any absorbents**

Special Local Water Quality Concerns

11. Which of the following are possible sources of sediment:
 - a. Leaves in drain
 - b. Dirt stockpiles**
 - c. Fertilizer
 - d. Portable toilet

12. Which of the following is a method to control sediment:

- a. Silt fence
- b. Hay bales
- c. Gutter buddies
- d. All of the above

13. Which of the following is a pollutant of the Chesapeake Bay TMDL:

- a. PCB
- b. Oil
- c. Bacteria
- d. Sediment

14. Which of the following best describes a Nutrient Management Plan:

- a. Conservative practices for the use of nutrients such as fertilizer to effectively provide nutrients to plants while protecting against adverse effects.
- b. Practices on the use of mulch and other ground covers for protecting plants and ensuring that they have adequate nutrients.
- c. Plan for applying nutrients while observing weather conditions to ensure that it does not rain within two weeks of applying fertilizers.
- d. Plan that applies to grass cutting.

15. The nutrient management plan is applicable to:

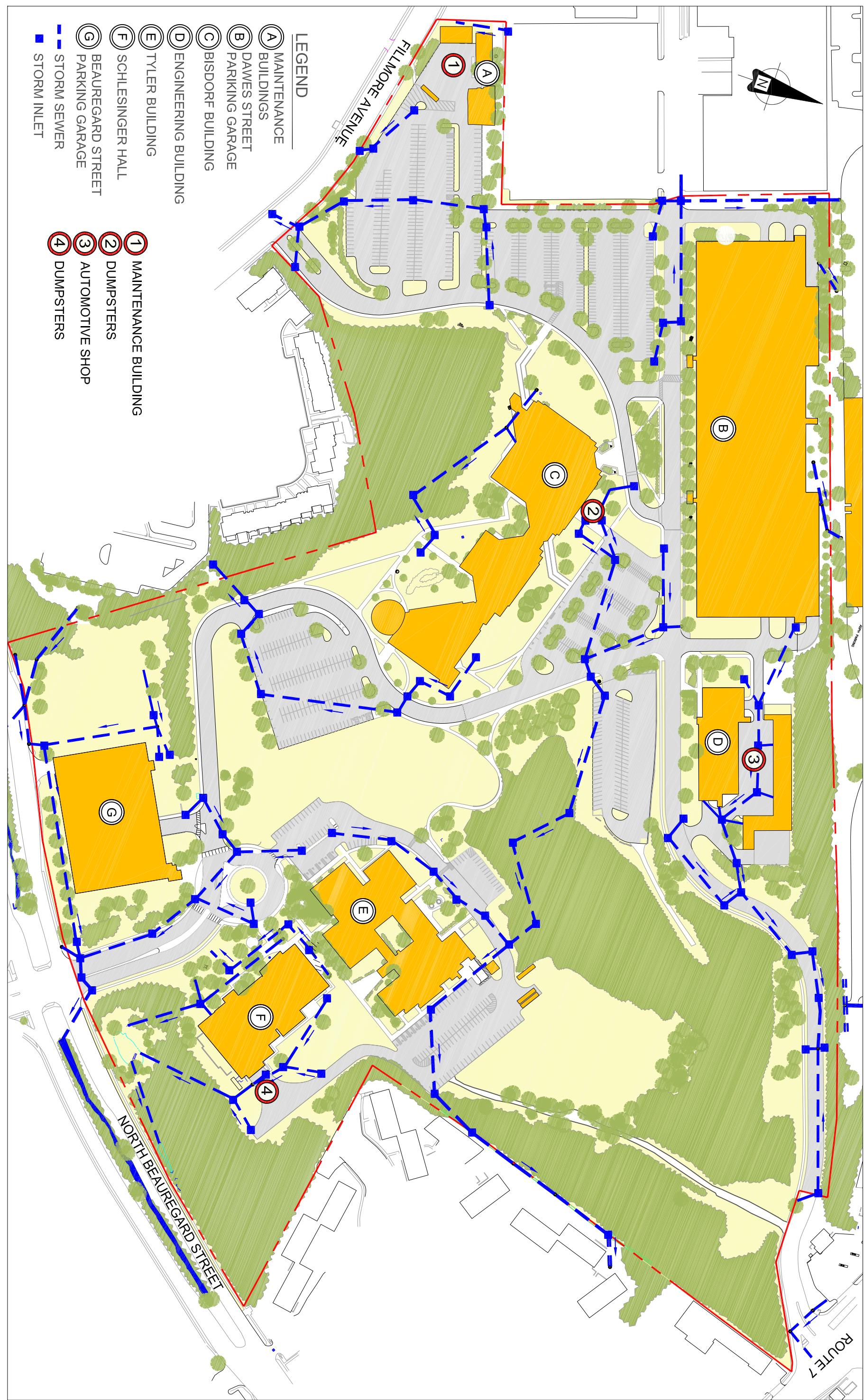
- a. Personnel applying nutrients
- b. President
- c. Students
- d. Visitors

APPENDIX E: NVCC Annual Training Plan Documentation Form

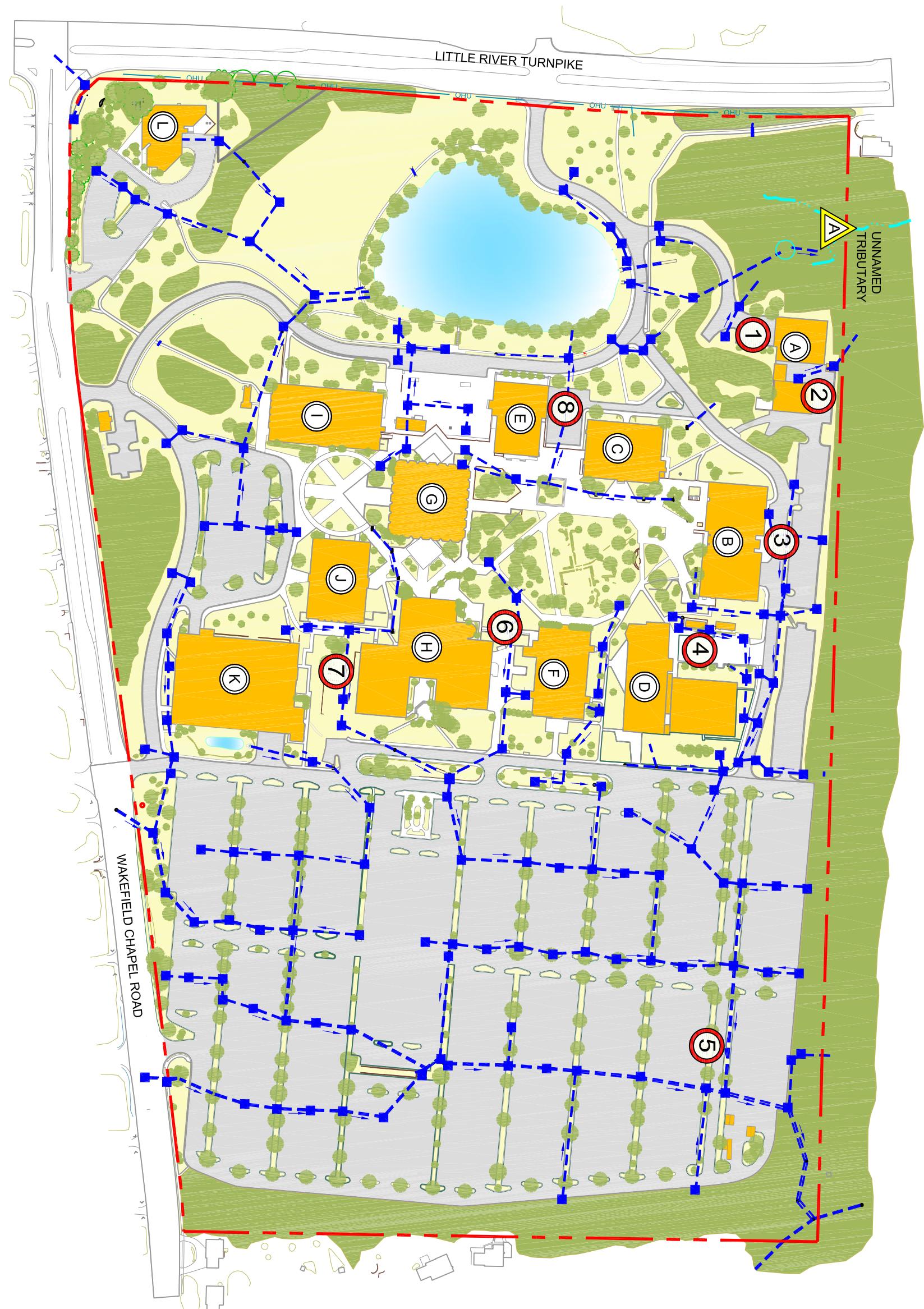
Northern Virginia Community College Annual Good Housekeeping/Pollution Prevention Training Plan Documentation Form

APPENDIX F: SWPPP Mapping

**NORTHERN VIRGINIA COMMUNITY COLLEGE
ALEXANDRIA CAMPUS
STORMWATER POLLUTION PREVENTION PLAN MAP**



NORTHERN VIRGINIA COMMUNITY COLLEGE
ANNANDALE CAMPUS
STORMWATER POLLUTION PREVENTION PLAN MAP



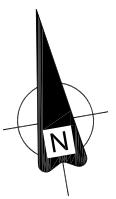
LEGEND
BUILDING GUIDE

- (A) MAINTENANCE BUILDINGS
- (B) TV TECH BUILDING
- (C) CLASSROOM BUILDING
- (D) STUDENT SERVICES BUILDING
- (E) FOOD SERVICES
- (F) McDIARMID BUILDING
- (G) GODWIN BUILDING
- (H) ERNST CENTER
- (I) SHULER BUILDING
- (J) CN BUILDING
- (K) PARKING GARAGE
- (L) BRAULT BUILDING

SWPPP GUIDE

- (1) CW WAREHOUSE
- (2) MAINTENANCE BUILDING
- (3) DUMPSTER
- (4) DUMPSTER
- (5) VEHICLE STORAGE
- (6) DUMPSTER
- (7) DUMPSTER, MATERIAL STORAGE/LOADING AREA
- (8) DUMPSTER

△ MS4 OUTFALL LOCATIONS
— STORM SEWER
■ STORM INLET



NVCC MS4 CAMPUS COMPLIANCE EVALUATION MAPPING TOOL & SWPPP

Individuals utilizing this SWPPP map for annual inspections are required to have completed the training program described in the NVCC MS4 Program Plan. Procedures for completing the annual comprehensive compliance evaluation and associated reporting are provided in Section 4.5 of the NVCC Good Housekeeping/Pollution Prevention Manual.

Updates:

SWPPP Maps are required to be updated when any new infrastructure is built (i.e. buildings, storm sewer, outfalls, etc.) or any possible pollutant generating activities are created, moved, or eliminated (i.e. dumpsters, new maintenance building, etc.).

Reportable Spills:

If any unusual or extraordinary discharge should occur from a facility and the discharge enters or could be expected to enter surface waters, the operator shall promptly notify, in no case later than within 24 hours, DEQ by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse effects on aquatic life and the known number of fish killed. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

- Unusual spillage of materials resulting directly or indirectly from processing operations;
- Breakdown of processing or accessory equipment;
- Failure or taking out of service some or all of the facilities; and
- Flooding or other acts of nature.

NOTE: The immediate (within 24 hours) reports required to be provided to DEQ may be made to the appropriate Regional Office Pollution Response Program as found at <http://deq.virginia.gov/Programs/PollutionResponsePreparedness.aspx>. Reports may be made by telephone or by fax. For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

* Use this map in conjunction with the NVCC Campus Comprehensive MS4 Compliance Evaluation Form. The activities and pollutants below are most likely to occur at the specified location. General BMPs are provided and reference to the applicable section of the 'NVCC Good Housekeeping and Pollution Prevention Program Manual' if additional information is needed to address an identified issue.

CW WAREHOUSE ①

- **Vehicle Storage:** Store vehicles under cover or away from storm drains, contain any leaking fluid and spills. (Section 6.17)
- **Potential Pollutants:** Solvents, Grease, Sediment, Petroleum Products
- **Source Controls:** (1) Drip pans, (2) spill kits

- **Dumpster:** Keep dumpster covered. If leaking, use absorbent, scrub with a broom to remove as much of the chemical as possible, and promptly recover all material. For recurring issues, provide drip pan or absorbent pad. (Section 6.11)

Potential Pollutants: Various

Source Controls: Cover provided.

MATERIAL STORAGE/LOADING AREA ⑦

- **Outdoor Loading:** Load material in dry weather, address spills in timely fashion to avoid contaminating storm drains (Section 6.15)
- **Potential Pollutants:** Leaked materials
- **Source Controls:** (1) Sweep (2) Spill Kit

MAINTENANCE BUILDING ②

- **Vehicle Maintenance:** Use absorbent, scrub with a broom to remove as much oil as possible, and promptly recover all material. For recurring issues, provide drip pan or absorbent pad. (Section 6.2)
- **Potential Pollutants:** Oil
- **Source Controls:** Spill Kit

- **Vehicle Storage:** Store vehicles under cover or away from storm drains, contain any leaking fluid and spills. (Section 6.17)
- **Potential Pollutants:** Solvents, Grease, Sediment, Petroleum Products
- **Source Controls:** (1) Drip pans, (2) spill kits

- **Vehicle Washing:** Wash in designated wash bays that drain directly to the sanitary sewer. (Section 6.1)
- **Potential Pollutants:** Solvents, Grease, Sediment, Petroleum Products
- **Source Controls:** Avoidance

- **Chemical Storage:** Keep chemicals indoors. Use absorbent, scrub with a broom to remove as much of the chemical as possible, and promptly recover all material. (Section 6.13)
- **Potential Pollutants:** Various
- **Source Controls:** (1) Spill Kit (2) Secure all chemical storage system (3) Ultratech SPCC Containment system.

- **Fueling Areas:** Fuel in designated or offsite areas and isolate area from storm sewer or water bodies. (Section 6.12)
- **Potential Pollutants:** Toxic fuel
- **Source Controls:** Spill Kit

DUMPSTERS ③ ④ ⑥ ⑦ ⑧

- **Dumpster:** Keep dumpster covered. If leaking, use absorbent, scrub with a broom to remove as much of the chemical as possible, and promptly recover all material. For recurring issues, provide drip pan or absorbent pad. (Section 6.11)

Potential Pollutants: Various

Source Controls: Cover provided.

NVCC - Points of Contact	
Sara Riliveria - MS4 Program Manager	(703) 323-4160
MS4 Localities - Points of Contact	

City of Alexandria	IDDE Reporting
Fairfax County	Public Works
Loudoun County	Public Works
Prince William County	IDDE Reporting

VDOT	NOVA District	800-367-7632
Agency - Points of Contact		
DEQ	Pollution Response & Preparedness Program	(804) 698-4000
Emergency Notification		911
National Response Center		(800) 424-8802

NORTHERN VIRGINIA COMMUNITY COLLEGE
LOUDOUN CAMPUS
STORMWATER POLLUTION PREVENTION PLAN MAP



NVCC MS4 CAMPUS COMPLIANCE EVALUATION MAPPING TOOL & SWPPP

Individuals utilizing this SWPPP map for annual inspections are required to have completed the training program described in the NVCC MS4 Program Plan. Procedures for completing the annual comprehensive compliance evaluation and associated reporting are provided in Section 4.5 of the NVCC Good Housekeeping/Pollution Prevention Manual.

Updates:

SWPPP Maps are required to be updated when any new infrastructure is built (i.e. buildings, storm sewer, outfalls, etc.) or any possible pollutant generating activities are created, moved, or eliminated (i.e. dumpsters, new maintenance building, etc.).

Reportable Spills:

If any unusual or extraordinary discharge should occur from a facility and the discharge enters or could be expected to enter surface waters, the operator shall promptly notify, in no case later than within 24 hours, DEQ by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse effects on aquatic life and the known number of fish killed. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

- Unusual spillage of materials resulting directly or indirectly from processing operations;
- Breakdown of processing or accessory equipment;
- Failure or taking out of service some or all of the facilities; and
- Flooding or other acts of nature.

NOTE: The immediate (within 24 hours) reports required to be provided to DEQ may be made to the appropriate Regional Office Pollution Response Program as found at <http://deq.virginia.gov/Programs/PollutionResponsePreparedness.aspx>. Reports may be made by telephone or by fax. For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

* Use this map in conjunction with the NVCC Campus Comprehensive MS4 Compliance Evaluation Form. The activities and pollutants below are most likely to occur at the specified location. General BMPs are provided and reference to the applicable section of the 'NVCC Good Housekeeping and Pollution Prevention Program Manual' if additional information is needed to address an identified issue.

MAINTENANCE 1

- **Vehicle Maintenance:** Use absorbent, scrub with a broom to remove as much oil as possible, and promptly recover all material. For recurring issues, provide drip pan or absorbent pad. (Section 6.2)

Potential Pollutants: Oil

Source Controls: Spill Kit

- **Vehicle Washing:** Wash in designated wash bays that drain directly to the sanitary sewer. (Section 6.1)

Potential Pollutants: Solvents, Grease, Sediment, Petroleum Products

Source Controls: Avoidance

- **Vehicle Storage:** Store vehicles under cover or away from storm drains, contain any leaking fluid and spills. (Section 6.17)

Potential Pollutants: Solvents, Grease, Sediment, Petroleum Products

Source Controls: (1) Drip pans, (2) spill kits

- **Erodible Stockpiles:** Provide permanent or temporary cover, isolate area from storm sewer or water bodies. (Section 6.9)

Potential Pollutants: Salts, Sediment

Source Controls: Isolation

- **Chemical Storage:** Keep chemicals indoors. Use absorbent, scrub with a broom to remove as much of the chemical as possible, and promptly recover all material. (Section 6.13)

Potential Pollutants: Various

Source Controls: (1) Spill Kit (2) Secure all chemical storage system (3) Ultratech SPCC Containment system.

- **Fueling Areas:** Fuel in designated or offsite areas and isolate area from storm sewer or water bodies. (Section 6.12)

Potential Pollutants: Toxic fuel

Source Controls: Spill Kit

- **Dumpster:** Keep dumpster covered. If leaking, use absorbent, scrub with a broom to remove as much of the chemical as possible, and promptly recover all material. For recurring issues, provide drip pan or absorbent pad. (Section 6.11)

Potential Pollutants: Various

Source Controls: Cover provided.

NVCC – Points of Contact		
Sara Rilveria – MS4 Program Manager		(703) 323-4160
MS4 Localities – Points of Contact		
City of Alexandria	IDDE Reporting	(703) 746-4200
Fairfax County	Public Works	(703) 324-5033
Loudoun County	Public Works	(703) 771-5552
Prince William County	IDDE Reporting	(703) 792-7070
VDOT	NOVA District	800-367-7632
Agency – Points of Contact	Pollution Response & Preparedness Program	(804) 698-4000
DEQ	Emergency Notification	911
National Response Center		(800) 424-9802

NORTHERN VIRGINIA COMMUNITY COLLEGE
WOODBRIDGE CAMPUS
STORMWATER POLLUTION PREVENTION PLAN MAP



NVCC MS4 CAMPUS COMPLIANCE EVALUATION MAPPING TOOL & SWPPP

Individuals utilizing this SWPPP map for annual inspections are required to have completed the training program described in the NVCC MS4 Program Plan. Procedures for completing the annual comprehensive compliance evaluation and associated reporting are provided in Section 4.5 of the NVCC Good Housekeeping/Pollution Prevention Manual.

Updates:

SWPPP Maps are required to be updated when any new infrastructure is built (i.e. buildings, storm sewer, outfalls, etc.) or any possible pollutant generating activities are created, moved, or eliminated (i.e. dumpsters, new maintenance building, etc.).

Reportable Spills:

If any unusual or extraordinary discharge should occur from a facility and the discharge enters or could be expected to enter surface waters, the operator shall promptly notify, in no case later than within 24 hours, DEQ by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse effects on aquatic life and the known number of fish killed. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

- Unusual spillage of materials resulting directly or indirectly from processing operations;
- Breakdown of processing or accessory equipment;
- Failure or taking out of service some or all of the facilities; and
- Flooding or other acts of nature.

NOTE: The immediate (within 24 hours) reports required to be provided to DEQ may be made to the appropriate Regional Office Pollution Response Program as found at <http://deq.virginia.gov/Programs/PollutionResponsePreparedness.aspx>. Reports may be made by telephone or by fax. For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

* Use this map in conjunction with the NVCC Campus Comprehensive MS4 Compliance Evaluation Form. The activities and pollutants below are most likely to occur at the specified location. General BMPs are provided and reference to the applicable section of the 'NVCC Good Housekeeping and Pollution Prevention Program Manual' if additional information is needed to address an identified issue.

SERVICE SUPPORT 1

- **Fueling:** Use absorbent, scrub with a broom to remove as much oil as possible, and promptly recover all material. For recurring issues, provide drip pan or absorbent pad. (Section 6.12)
- **Common Associated Pollutant:** Gas
- **Source Controls:** (1) Double walled fuel tank (2) Cut-off switch (3) Spill Kit

MAINTENANCE BUILDING 2

- **Vehicle Maintenance:** For oil and other leaking fluids, use absorbent, scrub with a broom to remove as much fluid as possible, and promptly recover all material. For recurring issues, provide drip pan or absorbent pad. (Section 6.2)

Potential Pollutants: Oil, automotive fluids
Source Controls: Drip Pans, Spill Kit

HVAC LAB BUILDING 3

- **Dumpster:** Keep dumpster covered. If leaking, use absorbent, scrub with a broom to remove as much of the chemical as possible, and promptly recover all material. For recurring issues, provide drip pan or absorbent pad. (Section 6.11)
- **Potential Pollutants:** Various
Source Controls: Cover provided.

NVCC – Points of Contact	
Sara Rriveria – MS4 Program Manager	(703) 323-4160
MS4 Localities – Points of Contact	
City of Alexandria	IDDE Reporting
Fairfax County	Public Works
Loudoun County	Public Works
Prince William County	IDDE Reporting
VDOT	(703) 746-4200 (703) 324-5033 (703) 771-5552 (703) 792-7070
NOVA District	800-367-7632
Agency – Points of Contact	
DEQ	Pollution Response & Preparedness Program
Emergency Notification	(804) 698-4000 911
National Response Center	(800) 424-8802

Appendix H

Nutrient Management Plan DCR Approval Letter



Douglas W. Domenech
Secretary of Natural Reso

David A. Johnson
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

203 Governor Street
Richmond, Virginia 23219-2010
(804) 786-1712

September 6, 2012

Northern Virginia Community College
Derek Hodge, Plan Administrator
8333 Little River Turnpike
Annandale, Virginia 22003-3796

Re: Northern Virginia Community College Nutrient Management Plans

The following Nutrient Management Plans written by Charles L. Thornton and dated 7/15/2012 are approved by the Virginia Department of Conservation & Recreation as compliant with the provisions of the Code of Virginia-10.1-104.4.

Plan	Acres	Expiration
Alexandria Campus	5.86	
Annandale Campus	11.8	
Loudoun Campus – Athletics	21.5	
Loudoun Campus – Main	15.9	7/15/2015
Manassas Campus	14.21	
Medical Education Campus	1.3	
Woodbridge Campus	6.22	

A copy of this letter should be kept with your nutrient management plan. The Department recommends the process of revising nutrient management plans begin at least six months prior to the expiration date. If you have any questions concerning this letter and/or approval, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Robert F. Habel".

Robert F. Habel

CC: Charles L. Thornton